

**EFFECTIVENESS OF FOOT REFLEXOLOGY ON THE LEVEL
OF DEPRESSION AMONG ELDERLY PERSONS AT
SELECTED OLD AGE HOMES, SALEM.**

By

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**A DISSERTATION SUBMITTED TO
THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI,
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE
DEGREE OF MASTER OF SCIENCE IN NURSING
PSYCHIATRIC (MENTAL HEALTH) NURSING**

APRIL – 2016

CERTIFICATE

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ACKNOWLEDGEMENT

I wish to express my humble and sincere gratitude to **God Almighty** for bestowing. His beautiful grace, wisdom and courage for the successful completion of this study in an efficient manner.

I am indebted to many persons, and would like to express my gratitude to all who guided, advised and moulded this piece of work and provided information, without which I would never have completed this endeavour. Their precious time, energy, experience and suggestions were a source of inspiration and sustenance.

I am substantially thankful to **Dr. K. Arthanari, M.D**, and Managing Trustee of Sri Gokulam College of Nursing for all his blessings, encouragement and dedication for academic excellence and giving formidable opportunity to finish my project peacefully.

It's my privilege to express the deepest sense of gratitude to acknowledge our Principal **Prof. Dr. K. Tamizharasi, Ph.D.(N)**., Principal, Sri Gokulam College of Nursing for her enduring catalytic encouragement, and without her guidance and support this work would have been impossible.

A sincere deepest gratitude is expressed to **Prof. J. Kamini Charles, M.Sc. (N)**., Vice Principal, Sri Gokulam College of Nursing for her valuable suggestions, guidance and support to carry out my Research work completely with enthusiasm.

I express my whole hearted deepest gratitude to my Guide **Prof. Lalitha.P, M.Sc.(N)**., Head of the Psychiatric Nursing Department for her immense support and guidance throughout the work. I am indebted to her constant interest, untiring guidance, valuable suggestions, continuous support and encouragement to complete this research work.

I express my sincere gratitude to **Dr. C. Babu, M.D**, Consultant Psychiatrist, of Sri Gokulam Hospital for having extended his hands in completing this study successfully.

I extend my great jubilation thanks to **Mr. S. Saravanan, M.Sc.(N)**, Associate Professor, for his guidance, suggestions, support and motivation to bring this study as a successful one.

I also extend my thanks to **Mr.S.Nandakumar, M.Sc(N)**., Lecturer, and **Ms.N.Ramya, M.Sc(N)**., Nursing Tutor, Department of Psychiatric Nursing, for their motivation to bring this study as a successful one.

I am obliged to the **Medical and Nursing Experts** for validating the tool and content used in this study.

I also wish to take the opportunity to express my heartfelt thanks to **Mr. P. Jayaseelan, M.Sc.**, Librarian of Sri Gokulam College of Nursing.

I extend my sincere obligation to **Dr.M.Dharmalingam,Ph.D.**, Biostatistician for support and guidance in statistical analysis and interpretation of data.

A special note of thanks to **All the Faculty** of Sri Gokulam College of Nursing who gave timely help and support to complete the study.

I extend my heartfelt gratitude to **The Managing Directors** of old age homes, for giving permission to conduct this study.

I extend my sincere thanks to all **Participants** who participated in the study for their whole-hearted cooperation without whom this study would have been impossible.

I express my special thanks to **Mr.V.Abraham Murugesan**, Grace Computers, Salem for his timely support and technical work to complete my study.

Once again my immense thanks to all the **Members** who are all involved directly as well as indirectly for completing my Dissertation in a fruitful manner.

I would like to express my deep heartfelt gratitude and salute to my father **Mr.P.Ramasamy** and my lovable mother **R.Mallika** for their fruitful prayers, endless patience, inspiration and support throughout this endeavour.

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ABSTRACT

A study was conducted to assess the effectiveness of foot reflexology on depression among elderly persons at selected old age homes, Salem.

Pre experimental (One group pre-test and post-test) design was adopted. Setting of this study was at Vallalar oldage home and Tambras old age home at Salem. 30 samples were drawn through purposive sampling technique. Depression was assessed by geriatric depression scale through structured interview schedule. Foot reflexology was given for 15 consecutive days. Post-test was done at the 21st day of intervention. The data were collected and analysed by Karl Pearson's statistical method. The findings revealed that in pre-test 20(70%), samples had moderate level of depression and 10 (30%) of elderly persons had mild level of depression.

During post-test 15 (50%) of the elderly persons had moderate level of depression and 15 (50%) of the elderly persons had mild level of depression. The comparison of pre-test and post-test level of depression among elderly persons reveals that, in the pre-test mean score is 9.56 ± 1.46 and in the post-test mean score is 8.03 ± 1.58 . The mean difference is 1.53. The calculated value 12.234 is highly significant than the table value 2.76. This shows that foot reflexology was effective in reducing level of depression among elderly person at $p \leq 0.01$ level. Hence, the research hypothesis H_1 is retained. There is a significant association ($p \leq 0.05$) between the reason for joining old age home and the pre-test level of depression among elderly persons. Hence, the research hypothesis H_2 is retained for the above mentioned variable. Also there is a significant association found between the education and reason for joining in the old age home and the post-test level of depression among elderly persons. Hence, the research hypothesis H_3 is retained for the above mentioned variable.

Foot reflexology was an exotic alternative therapy and as well as cost effective for reducing the depression among the elderly.

CHAPTER - I

INTRODUCTION

“People don’t grow old; when they stop growing, they become old”

Aging is a biological process and experienced by the mankind in all times. It refers to a sequence of changes across a life span of an individual. Though aging is a multidimensional process, it is the closing period of the life of an individual. It is a period when people move away from their more desirable period or times of ‘usefulness’.

The experience of aging is unique to every individual because of the individual differences in personalities, varying social support networks and differing according to the culture to which one belongs. The senior citizen is something of a social stigma. Aging is a universal phenomenon, which is experienced by every human being across various cultures. The increase in the elderly population may pose tremendous problems in the days to come if proper measures are not taken.

According to **American psychological Association,(2010)** old age is a time of losses. It is the stage of life when an individual gradually or suddenly loses his physical vigor, physiological resources of body functions, occupation, friends, and spouse and may be independence too. These life events keep on occurring continuously in the life of an old person. If and when these stresses become too severe or too numerous they may affect the physical and/or psychic equilibrium producing maladaptive patterns of adjustment including physical and mental disorders.

The health problems of aged people are usually multiple which are compounded by under-reporting and apathetic attitude of the relatives towards health problems of the elderly. Any system of the body can be affected by any disease in an aged person due to changes in the physical and chemical barriers of the body like

changes in immune system, malnutrition, multiple drug abuse, psychological stress and callous attitude towards one's own health.

United Nations, (2011) reports that aging has been defined as a progressive decline in the physiological capacity leading to a decreased ability to adopt to stressors, or loss of adaptability of an individual organism over time. The term Elderly has been defined in many dimensions. Biologically, the process of aging begin as early as puberty and is a continuous process through adult life. Socially, the characteristics of members of the society perceived as being old vary with the cultural setting, and from generation to generation. Economically, especially in rural areas, the elderly are simply seen as being those who are too old to work and earn. Chronologically, numeric age has been traditionally used in defining the term elderly. Even though a single cut-off age which would define the elderly would vary between country and religion considering the biological, sociological and economical difference in their population. The United Nations defined 60 years as the age of transition of people to the elderly segment of the population.

The World Health Organization (2009) estimated that the overall prevalence rate of depressive disorders among elderly generally caries between 10% and 20% depending on cultural situations. The community based mental health studies in India has revealed that the point prevalence of depressive disorders in elderly Indian population varies between 10 and 25 percent.

Depression is a common mental disorder. Globally, more than 350 millions of people of all ages suffer from depression. Depression is the leading cause of disability worldwide, and is a major contributor to the global burden of disease. More women are affected by depression than men. At its worst, depression can lead to suicide. There are effective treatments for depression, one among them is Foot Reflexology.

Sheela and Jayamala conducted a study in India in the year 2009 on 1000 participants aged over 65 years from Kaniyambadi block, Vellore, India. They used structured assessment tool i.e. Geriatric Mental Scale and found that Prevalence of geriatric depression (ICD-10) within the previous one month and it was 12.7% (95% CI 10.64-14.76%) and concluded that Geriatric depression is prevalent in rural south India. Poverty and physical ill health are risk factors for depression among elderly.

Reflexology is an alternative medicine involving the physical act of applying pressure to the feet, hands or ears with specific thumb, finger and hand techniques without the use of oil or lotion. It is based on what reflexologists claim to be a system of zones and reflex areas that they say reflect an image of the body on the feet and hands, with the premise that such work effects a physical change to the body. Reflexologists divide the body into ten equal vertical zones, five on the right and five on the left. It is based on the principle that the foot, divided in reflex zones, is a mirror image of the body. Each reflex zone corresponds to a part of the body. Specific manipulation and pressure of these zones reduces and eliminates blockages in corresponding glands, organs and other parts of the body.

NEED FOR THE STUDY

Old age puts more wrinkles in our minds than our faces. Old age especially demands affection. When a person grows old, he inevitably needs someone to be with him. Aging is not a regular and gradual process. It's a whole set of mechanism that occur and combine at different rates. Aging is a multidimensional process; old age is the closing period of the life of an individual.

Depression is a common illness worldwide, with an estimated 350 million people affected. Depression is different from usual mood fluctuations and short-lived emotional responses to challenges in everyday life. Especially when long-lasting and

with moderate or severe intensity, depression may become a serious health condition. It can cause the affected person to suffer greatly and function poorly at work, and in the family. At its worst, depression can lead to suicide. Suicide results in an estimated 1 million deaths every year. (WHO, 2011)

World Health Assembly Resolution (2012) states although there are known, effective treatments for depression, fewer than half of those affected in the world (in some countries, fewer than 10%) receive such treatments. Barriers to effective care include lack of resources, lack of trained health care providers, and social stigma associated with mental disorders. Another barrier to effective care is inaccurate assessment. Even in some high-income countries, people who are depressed are not always correctly diagnosed, and others who do not have the disorder are occasionally misdiagnosed and prescribed antidepressants. The burden of depression and other mental health conditions is on the rise globally.

Blazer (2009) states that depression is common in late life, affecting nearly 5 million of the 31 million aged 65 and older with clinically significant depressive symptoms reaching 13% in older adults aged 80 and older. Major depression is reported in 8-16% of community dwelling older adults, 5-10% of older medical outpatients seeing a primary care provider, 10 - 12% of medical-surgical hospitalized older adults with 23% more experiencing significant depressive symptoms

United Nations Population Fund, (2013) states that India's population is likely to increase by 60 per cent between 2000 and 2050 but the number of elders, who have attained 60 years of age, will shoot up by 30 per cent and the government should start framing policies now, else its consequences are likely to take it by surprise. India has around 100 million elderly at present and the number is expected to increase 323 million, constituting 20 per cent of the total population by 2050.

Spring (2012) National College Health Assessment conducted a quasi-experimental study in Ireland to examine the effects of self-foot reflexology on stress, fatigue and blood circulation in premenopausal middle-aged women. A pre-test and post-test design was used. Participants were 59 premenopausal, middle-aged women in their 40s and 60s. 30 were divided in the experimental group and 29 were divided in the control group. Self-foot reflexology was performed three times a week for 6 weeks for 40 minutes at each session. The results showed that self-foot reflexology was effective in reducing perceived stress and fatigue and helped in improving the blood circulation in premenopausal middle-aged women.

Marlatt, (2011) states that foot reflexology is based on the principle that the foot is like a chart of the body: divided into ten reflex zones, it is a mirror image of the body. Each reflex zone corresponds to a part of the body. Specific manipulation and pressure of reflex points reduces and eliminates blockages in the corresponding glands or organs, and therefore restores a healthy balance. As the build-up increases in the feet, it puts pressure on the thousands of nerve endings that collect in the feet. This causes poorer communication throughout the body. Reflexology helps in increased circulation which allows the blood to carry the toxins in the body to areas in which they may be eliminated. It also helps to flush the bloodstream of toxins and thus restores the body to its healthy balance and increases the level of energy. Reflexology is an effective means of healing the body by relieving stress and tension.

Reflexology improves the psychological well-being in the selected group of elderly. It helps to improve the physical aspects, and emotional aspects of the aged individual. Reflexology is cost effective, can be conducted in any setting and it is a non-invasive procedure. Hence the investigator designed a study to assess the effectiveness of foot reflexology on depression among elderly.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of foot reflexology on depression among elderly persons at selected old age homes, Salem.

OBJECTIVES

1. To assess the level of depression among the elderly persons.
2. To evaluate the effectiveness of foot reflexology on depression among the elderly persons
3. To associate the level of depression among the elderly persons with their selected demographic variables.

OPERATIONAL DEFINITION

Effectiveness

It refers to the significant reduction in the level of depression among the elderly persons after implementation of foot reflexology as determined by the difference in the pre and post test scores.

Foot Reflexology

It is a technique where pressure is applied to certain points on the feet that correspond with other zones in the body for releasing any blocked energy for 30 minutes duration per day for 15 days.

Depression

In this study, depression refers to the expressed feelings of sadness, loss of interest in activities, changes in appetite and sleep disturbances.

Elderly

In this study, elderly refers to a person whose age is 65 years and above.

ASSUMPTION

1. Most of elderly persons residing in old age homes may have depression.
2. Elderly individuals those who are residing at old age homes may experience loneliness.

HYPOTHESES

- H₁:** There is a significant difference between the pre-test score and post-test score on the level of depression among the elderly persons at $p \leq 0.05$ level.
- H₂:** There is a significant association between the pre-test level of depression among the elderly persons and their selected demographic variables at $p \leq 0.05$ level.
- H₃:** There is a significant association between the post-test level of depression among the elderly persons and their selected demographic variables at $p \leq 0.05$ level.

DELIMITATIONS

- The setting of the study is limited to the elderly residents of selected old age homes, Salem.
- The study period is limited to 4 weeks.

PROJECTED OUTCOME

- The study would help to identify the level of depression among elderly persons residing at old age homes.
- Reflexology therapy would reduce depression among elderly.
- The findings of the study would help the health professional to gain knowledge for further research.

CONCEPTUAL FRAMEWORK:

A conceptual model frame work deals with the concepts of the research problems assembled together that will provide a certain frame of reference. The frame

work helps and guides the researcher to gain insight into the problem, by explaining the relationship with facts.

Conceptual framework for this study was derived from the General System Theory designed by Ludwig Von Bertalanffy (1986) who had defined “a system as a whole with interrelated parts in which the parts have their own functions. All living systems are open systems, they cannot survive without continuously exchanging matter and energy with their environment. The peculiarity of open system is that they interact with other systems outside of themselves.”

The systems interaction has three components:-Input, Throughput and Output

Input

It refers to what enters the system from outside. In this study, the input consists of cognitive impairment of elderly which is screened by Mini Mental Status Examination, demographic variables such as age, sex, no. of years of stay at old age home, presence of any physical illness, and level of depression which is assessed by Geriatric depression scale.

Throughput

This refers to the transformation of input into output by the system. In this study, the throughput is foot reflexology. It is a form of acupressure applied over the pressure points in the foot for 15 minutes daily for 15 alternative days.

Output

Output refers to what leaves the system outside of themselves. In this study, Output was categorized into two, viz. reduction in the level of depression and no reduction in the level of depression. Samples with no reduction in the level of depression were brought to feedback.

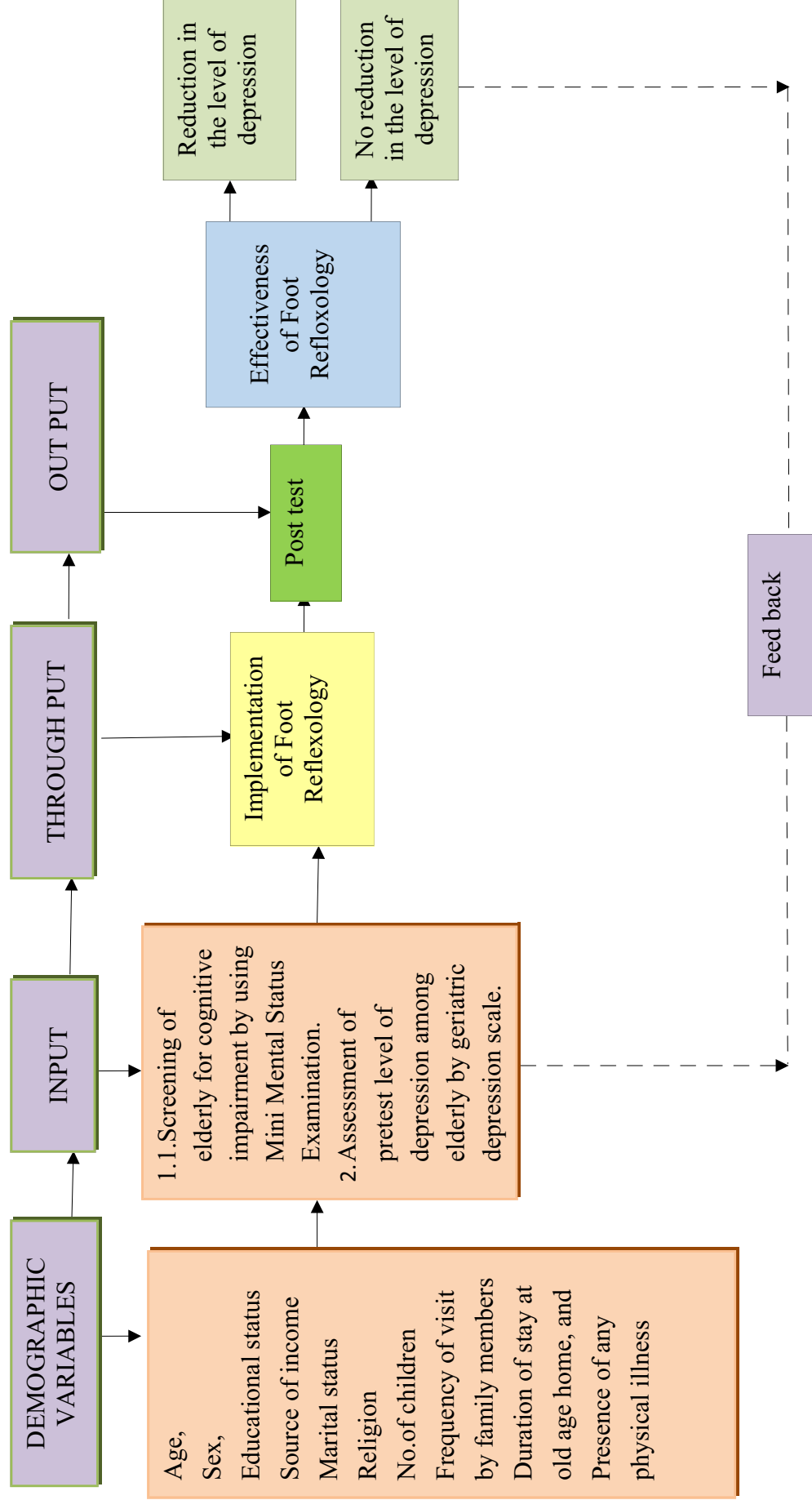


Figure 1.1: Conceptual Framework Based on Ludwig Von Bertalanffy General System Theory (1968) on effectiveness of foot reflexology on Depression

CHAPTER – II

REVIEW OF LITERATURE

Review of literature is an essential step in the development of a research project. It helps the researcher to design the proposed study in a scientific manner so as to achieve the desired result. It helps to determine the gaps, consistencies and inconsistencies in the available literature about particular subject under the study.

Review of literature for the present study is classified under the following headings

1. Literature related to depression among elderly.
2. Literature related to Effectiveness of Foot Reflexology on depression among elderly.

1. Literature related to depression among elderly persons.

Sandeep Grover and Nidhi Malhotra, (2015) reviewed the existing literature on depression among elderly arising from India, Community-based studies involving 70 to 7,150 elderly subjects report prevalence rate varying from 8.9% to 62.16%. Clinic-based studies involving 50 to 5,260 participants report prevalence rates ranging from 42.4% to 72%. Studies have reported depression to be more common among females. Other demographic factors that have been associated with depression among elderly include being unmarried, divorced or widowed elderly, residing in rural locality, being illiterate, increasing age, lower socioeconomic status, and unemployment. Depression has also been shown to be associated with various psychosocial factors, lifestyle and dietary factors, and presence of chronic physical illness.

Aparajita Dasgupta, et.al., (2014) conducted a study to investigate the level of depression among geriatric population in a slum of Kolkata. It was a cross –

sectional, community based study conducted on a sample of 130 elderly adults of 60 years and more. The study was conducted for a period of three months. Depression was assessed using the 15-item Geriatric depression scale. A multivariate analysis was done to ascertain the relationship of variables. The finding shows that prevalence of depression in this study was 46.9%. In multivariate analysis depression had significant association with female sex (AOR =3.224), unmarried status (AOR=3.140), Not satisfied with sleep at night (AOR = 4.710) and not consulted for decision (AOR =3.960) and they concluded that overall mental status was far from satisfactory. With increasing number of old people and with radical change of school structure it is high time that health policy makers take serious steps to provide significant social, economic and medical services to the elderly more so the economically deprived of this country.

Seby K, et.al., (2011) conducted a cross-sectional, epidemiological study on prevalence of psychiatric and physical morbidity in an urban geriatric population. All the consenting elderly persons in a municipal ward division ($n=202$) were enrolled after surveying a total adult population of 7239 people. Mini Mental State Examination, Geriatric Depression Scale were used in the interview. The data was analysed by Chi-square test. There was a statistically significant increase in the GHQ-12 scores with increasing age ($P=0.03$). Similarly, there was a statistically significant decrease in the MMSE scores with increasing age ($P=0.03$). There was no statistically significant difference in scores of depression ($P=0.82$), anxiety ($P=0.87$) or alcohol abuse ($P=0.99$) among the different age groups. The overall prevalence of psychiatric morbidity in this geriatric population was 26.7%. The most prevalent psychiatric disorder was depressive disorders.

Luppa M,et.al., (2011) conducted a longitudinal study on epidemiology of depression in old age. The samples of 1265 elderly individuals aged 75 years and older participated in this study. A prevalence and incidence rate as well as risk factors of depression was determined. Depression was assessed dimensionally by the Centre of Epidemiologic Studies Depression Scale and categorically by the Structured Clinical Interview for DSM-IV. The prevalence rates were 1.0% for Major Depression, 2.5% for Minor Depression. The rates were increased for Minor and depressive symptoms with rising age.

Ankur., et.al, (2011) conducted a study on prevalence of depressive disorders in the elderly. A retrospective study based on analysis of different study reports was conducted, to identify the median prevalence rates of depressive disorders in the elderly population of India and various other countries in the world. These studies were conducted on a homogenous community of the aged population in the world and subjects were selected by a Simple Random Sampling technique. After applying the inclusion and exclusion criteria, 74 original research articles that surveyed a total of 4,87, 275 elderly individuals, in the age group of 60 years and above residing in different parts of the world, were included for the final analysis. A P value of $P \leq 0.05$ was considered as statistically significant. The median prevalence rate of depressive disorders in the world for the aged population was determined to be 10.3%. The median prevalence rate of depression among the aged Indian population was determined to be 21.9%. The comparison of the median prevalence rates of depression in the aged population of India and the rest of the world was also determined. It revealed that the proportion of the depressed elderly population in India (18.2%) was significantly higher than the rest of the world (5.4%) and this difference was found to be statistically highly significant ($\chi^2=770.4$ and $P=.000000001$). This study found that

geriatric depression was significantly higher among Indians, in recent years, than the rest of the world's population.

Monica Gupta, et.al, (2010) conducted a cross sectional observational study on Prevalence of Depression in Elderly with Medical Disorders. Patients were randomly selected from the Geriatric clinic at the GMCH, Chandigarh from July to December 2008. Depression was assessed by GDS. The cut-off point for depression was 22 or more when rated on a 30-point scale. Patients with prior psychiatric diagnosis were excluded. The data was analysed statistically by using percentage and chi-square with SPSS software. A total of 196 elderly (65 years or more) were enrolled in the study with 97 (49.5%) males and 99(50.5%) females. The mean age of the population studied was 69.75 ± 5.57 years. The minimum and the maximum age were 65 and 90 years, respectively. The prevalence of depression was significantly more in elders suffering from 3 or more chronic diseases (48.44%) than those with <3 diseases (18%). This difference was highly significant statistically ($p < 0.005$). Prevalence of depression was the highest among the stroke patients (50%) followed by hypothyroidism (42%), arthritis (41.54%), COPD (37.7%), CAD (32.8%), hypertension (32%) and diabetes mellitus (28.8%). It was essential to improve access to health care for this vulnerable section of the society by bringing comprehensive health services at their doorstep.

[Ankur Nilamadhab Kar, \(2010\)](#) conducted a cross-sectional study on the prevalence of depression among the elderly population of rural areas of Udupi district, Karnataka. Using Simple Random Sampling, without replacement method, 627 subjects selected between the age group of 60 years and above. The Indian version of WHO-five well-being index screening instrument was used to assess the level of

depression. The study revealed that the prevalence of depression in elderly population was 21.7% in Indian community.

Ather M. Taqui, et.al., (2007) conducted a cross-sectional study on depression in the elderly, and the role of family system. Questionnaire-based interviews were conducted among the elderly people visiting the hospital. Depression was assessed by using the 15-item Geriatric Depression Scale. 400 subjects aged ≥ 65 were interviewed. The age of majority of the elderly ranged from 65 to 74 years. The mean age of the subjects was 69 years. The prevalence of depression was found to be 19.8%. Multiple logistic regression analysis found that the following were significant ($p < 0.05$) independent predictors of depressive disorder: nuclear family system and female sex, being single or divorced/widowed and unemployment. Other factors that showed a significant association with depression in the elderly included living single ($p < 0.001$), does not have child ($p < 0.001$) and being unemployed ($p < 0.001$). The aged living in a nuclear family system were 4.3 times more commonly suffer from depressive disorder than those living in a joint family system. The transition of family systems towards nucleation may had a major deleterious effect on the physical and mental health of the elderly.

Sherina M, et.al, (2005) conducted a cross sectional study on the prevalence of depression among elderly in an urban area of Selangor, Malaysia. The structured questionnaire was used which consisted of two parts; (1) socio-demographic, socioeconomic and clinical data and (2) The Geriatric Depression Scale (GDS-30) and The Elderly Cognitive Assessment Questionnaire. Out of 316 elderly subjects, 300 were interviewed giving a response rate of 94.9%. Data was analysed by using SPSS. The statistical test used was Chi square test, and t-test. The significance level used was $p \leq 0.05$ to determine the association between depression and other factors.

The results showed that 6.3% of the elderly respondents were found to have depression. The association between depression and gender was statistically significant ($\chi^2 = 5.901$, $df = 1$, $p = 0.015$). There was also significant association between depression and presence of chronic illness ($\chi^2 = 4.812$, $df = 1$, $p = 0.028$). The prevalence of depression among the elderly respondents in this study was 6.3%. Gender and presence of chronic illness were identified as important factors to be emphasized on when assessing for depression in the elderly.

Martha L. Bruce, et.al, (2002) conducted a study on Major Depression in Elderly Home Health Care Patients. The subjects were sampled on a weekly basis over a period of 2 years, those who newly got newly admitted to a large traditional visiting nurse agency. The 539 patients were selected the age between the age 65 and 102 years. DSM-IV Axis I Disorders screening instrument was used to interview the patients and informants. According to DSM-IV criteria, 73(13.5%) of the 539 patients were diagnosed with major depression. Most of these patients ($n = 52$, 71%) were experienced their first episode of depression, and this episode was lasted for more than 2 months in most patients ($n = 57$, 78%). This study concluded that Geriatric major depression was twice as common in patients receiving home than those of receiving primary care.

Literature related to Effectiveness of Foot Reflexology on depression among elderly persons.

Choi MS and [Lee EJ](#) (2015), conducted a study to find the effects of Foot Reflexology on Fatigue, Stress and Postpartum Depression in Postpartum Women. A non-equivalent control group pre-post design was used. A total of 70 women in a postpartum care center were recruited and were assigned to the experimental group (35) or control group (35). Foot reflexology was provided to the experimental group

once a day for three days. Data were collected before and after the intervention program which was carried out from December, 2013 to February, 2014. Data were analyzed using Chi-square test, Fisher's exact test, and t-test. The results shows that the level of fatigue in the experimental group was significantly lower than the control group ($t=-2.74$, $p=.008$). The level of cortisol in the urine of women in the experimental group was significantly lower than the control group ($t=-2.19$, $p=.032$). The level of depression in the experimental group was significantly lower than the control group ($t=-3.00$, $p=.004$). From the above findings they concluded that the foot reflexology is an effective nursing intervention to relieve fatigue, stress, and depression for postpartum women.

Shanmugam Rajamani, (2014), held a study to evaluate the effectiveness of foot reflexology on depression among older adults in selected old age homes at Madurai. Evaluative approach was used in this study. The research design was one group pre-test, post-test pre experimental design. The sample size was 30. Among the older adults, more than 40% of the older adults had severe depression(71%) while 60% had mild depression(58%) before foot reflexology. After foot reflexology, the level of depression decreased from severe condition to mild (39%) and normal (29%) levels. The mean post-test depression scores were lower than the mean pre-test depression scores. The 't' value (23.388) was greater than the table value at $p < 0.01$ level of significance. There was a significant association between the level of depression among older adults and selected demographic variables of age, economic status, mode of entry and duration of stay. Foot reflexology was effective in reducing level of depression among the older adults in old age homes.

Nikhila Sreekumar, (2013) conducted a Quasi-Experimental study to compare the depression before and after the foot reflexology among elderly in old age homes. One group pretest posttest design was used. The main study was conducted in

selected old age homes in Kerala, Tavanur in Malappuram district and Koppamin, Palakkadu district. Based on inclusion criteria, 60 members were found eligible for the study. Pretest on depression was measured using interview method. Reflexology was given to the group for 30 minutes per day for 15 days. Post-test was done by administering Geriatric depression scale after 15 days. There was a significant reduction in depression among elderly after foot reflexology, $t=1.378$ ($p \leq 0.05$) and none of the background factors were associated with mean difference in depression. From the above findings the researcher conclude that, the foot reflexology was an effective measure for reducing depression and it can be a part of nursing interventions in dealing with problems of depression.

O Wong, et.al., (2005), conducted a study to investigate the Health hazards on foot massage among the workers in China. A quasi-experimental study with the pre-test and post-test design in a non-equivalent control group. The subject of this study consisted of both the experimental group of twenty-nine and the control group of thirty aged individuals. Foot reflexology was performed for 60 minutes twice a week through five weeks in the experimental group, but none in the control group. To evaluate the effects of foot reflexology, the scores of fatigue and depression were measured before and after the experiment in both groups. Fatigue was evaluated by Fatigue Symptoms Inventory. Depression was measured with the geriatric depression scale. Data of this experiment was analyzed by Chi-square test, t-test, unpaired t-test and Repeated Measures ANOVA with the SAS Program. The scores of fatigue and depression decreased in the experimental group but not in the control group. There was a significant difference of fatigue and depression between the two groups. It is suggested that foot reflexology might have beneficial effects on reducing fatigue and depression among elderly persons, and it can be recommended as a nursing intervention program for geriatric patients.

CHAPTER -III

RESEARCH METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure for gathering the valid and reliable data for the purpose of investigation.

(Polit. D.F, and Hunger, 2003)

The present study aims to evaluate the effectiveness of foot reflexology on depression among elderly persons at selected old age homes, Salem.

Research Approach:

Quantitative Research Approach was adopted in this study.

Research Design:

Research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information.

Pre-experimental one group pre-test and post-test design was used to evaluate the effectiveness of Foot Reflexology on depression among elderly at selected old age homes, Salem.

$O_1 \quad X \quad O_2$

O_1 = Pre-test.

O_2 = Post-test.

X = Intervention (Foot Reflexology)

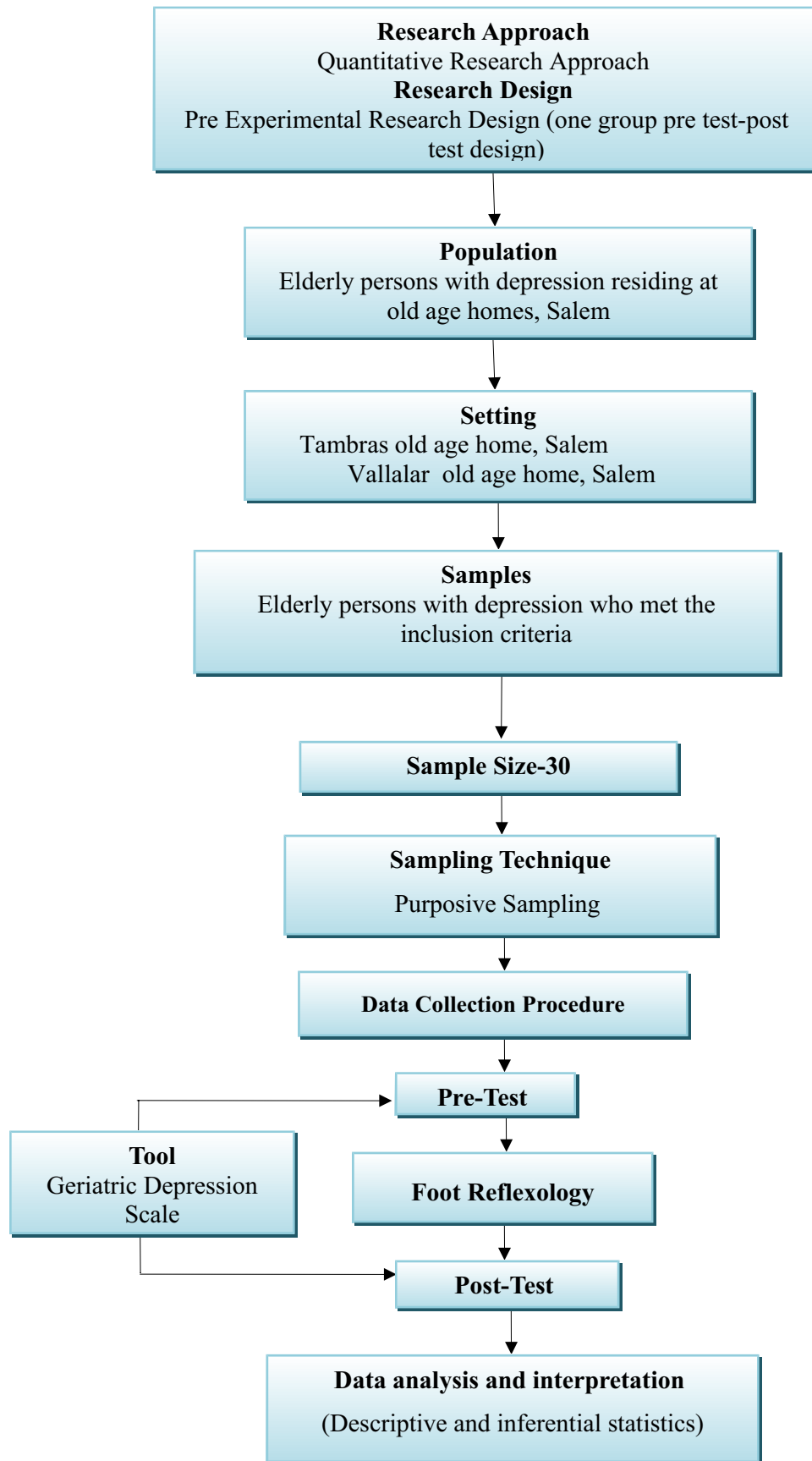


Fig.3.1. Schematic Representation of Research Methodology

Population:

Population is defined as the entire set of individuals or objects having some common characteristics. **(Polit. D.F & Beck Tatano Cheryl, 2008)**

The study population comprised of all elderly persons with depression residing at old age homes, Salem.

Sample:

Sample is defined as the subset of population, selected to participate in a study. **(Polit. D.F & Beck Tatano Cheryl, 2008)**

The sample of the study comprised of elderly persons who were residing in selected old age homes with depression and who met the inclusion criteria.

- **Sample Size:**

The sample size of this study was 30.

- **Sampling Technique:**

The sampling technique adopted for this study is purposive sampling.

Setting:

Setting is the physical location and conditions in which data collection takes place in a study. **(Polit. D.F & Beck Tatano Cheryl, 2008)**

The study was conducted in

1. Tambras old age home, Salem. (Total no. of inmates in the old age home was 34)
2. Vallalar old age home, Salem. (Total no. of inmates in the old age home was 28)

Both old age homes are run by private organization. These old age homes are situated within 15 kilometers from Sri Gokulam college of Nursing, Salem.

Criteria for Sample Selection:

Inclusion criteria:

- Elderly persons who
 - are male / female.
 - are aged between 65-80 years.
 - have mild and moderate cognitive impairment.
 - are willing to participate in the study.

Exclusion Criteria:

- Elderly persons who
 - have severe cognitive impairment.
 - are on antidepressant drugs.
 - are in severe depression.
 - have problem in foot like cellulites, foot ulcer and peripheral neuropathies.

Description of the Tool:

The tool consists of three sections.

Section-A:

This section deals with the demographic information of the elderly such as age, sex, religion, educational status, marital status, no. of children, source of income and expenditure, reason for joining old age home, duration of stay, frequency of visit by family members, presence of medical illness, performance of basic activities, and participation in recreation activities.

Section-B:

Section – B deals with,

- i. **Mini Mental Status Examination Scale (MMSE)**, in which samples who scored above 18 were selected for the study.

- ii. **Geriatric Depression Scale (GDS)**, which consists of 15 items, with positive and negative statements. Positive items were scored 1 and reverse scoring was given for negative statements.

The tools were translated in Tamil for the convenience of data collection.

Scoring Pattern

Positive items - 2,3,4,6,8,9,10,12,14 &15
Negative items - 1,5,7,11 & 13

Scoring system is as follows

Scores	Description
0 – 4	Normal
5 – 8	Mild depression
9 – 11	Moderate depression
12 – 15	Severe depression

Validity and Reliability of the Tool

Validity:

Validity of an instrument refers to the degree to which an instrument measures what it is supposed to measure. **(Sharma Suresh K, 2012).**

In this study the content of the intervention and the tool was given for validity to the experts in the field of psychiatry, psychology and psychiatric Nursing. Based on their suggestions and recommendations the modifications were incorporated in the tool.

Reliability:

Reliability is the degree of consistency and accuracy with which an instrument measures the attribute for which it is designed to measure. (Sharma Suresh K, 2012)

In this study the tool reliability was checked and established through Test-retest method with 'r' value = 0.90.

Pilot Study

After getting the written permission from the Administrator of Bodhimaram old age home, Salem, the pilot study was conducted from 24.08.2015 to 30.08.2015 among 3 study samples. On 24.08.2015 pretest was done with the Mini-Mental Status Examination (MMSE) & Geriatric Depression Scale (GDS) scale. Followed with that foot reflexology was given till 30.08.2015. Then the post test was conducted on 30.08.2015 with the same tool. The findings of the pilot study revealed that it was feasible to conduct further study.

Method of Data Collection**Ethical Consideration:**

Written permission is obtained from the administrator of Tambras old age home and Vallalar old age home at Salem.

Verbal and written consent is obtained from the study subjects.

Period of data collection:

The data collection period is 4 weeks. i.e., 01.09.2015 to 30.09.2015.

Data Collection Procedure:

The formal permission was obtained from the concerned authority to conduct the study.

The purpose of the study was explained to all the samples in the selected settings. After taking the formal permission from Tambras old age home and Vallalar

old age homes, Salem, and the written permission from the study subjects, the main study was conducted. On the first 2 days (31.08.2015 to 01.09.2015), screening was done with the help of MMSE to assess the cognitive functions and pre-test was conducted to assess the level of depression by using the Geriatric Depression Scale (GDS). From 3rd day (02.09.2015 to 01.10.2015) onwards for alternative 15 days the foot reflexology intervention was given to all the study samples. Then the post-test was conducted on 07.10.2015 with the same Geriatric Depression Scale (GDS) to find out the level of depression.

CHAPTER –IV

DATA ANALYSIS & INTERPRETATION

The chapter is presented in the following sections:

Section I:

Percentage distribution of samples according to their demographic variables.

Section II:

- a) Percentage distribution of samples according to their pre-test level of depression among elderly persons.
- b) Percentage distribution of samples according to their post-test level of depression among elderly persons

Section III:

- a) Comparison of pre-test and post-test level of depression among elderly persons.
- b) Comparison of Mean, SD and Mean difference of the pre-test and post-test level of depression among Elderly persons.

Section IV: Hypotheses testing

- a) Effectiveness of Foot Reflexology on the level of depression among elderly persons.
- b) Association between the pre-test level of depression among elderly persons and their selected demographic variables.
- c) Association between the post-test level of depression among elderly persons and their selected demographic variables.

SECTION – A

Percentage distribution of samples according to their selected demographic variables

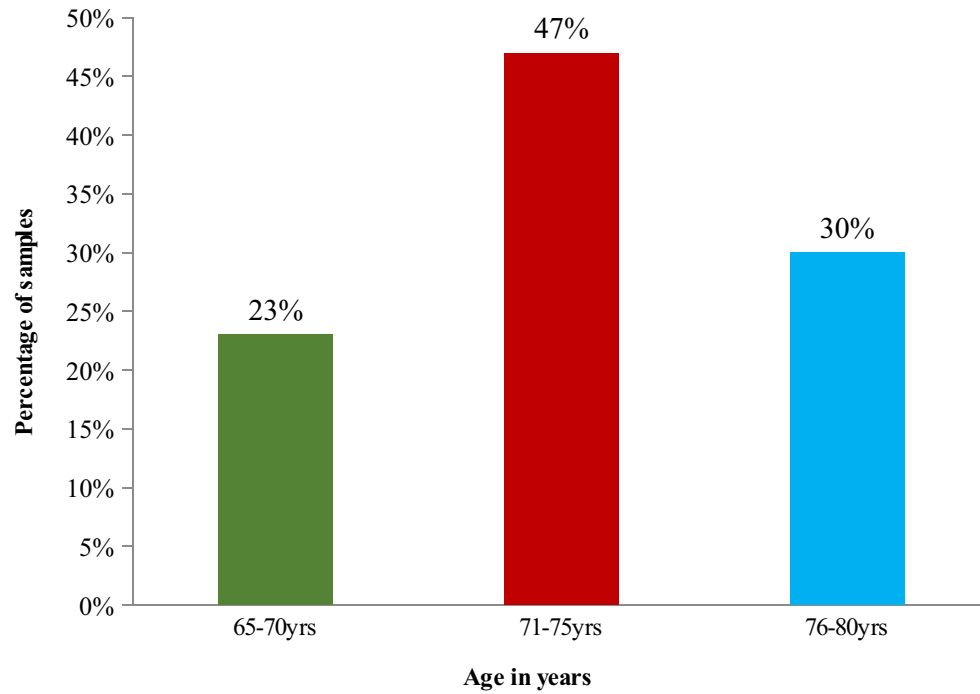


Fig: 4.1. Percentage distribution of samples according to their age.

The above figure shows that 14(47%) of the samples are between 71-75 years, 9(30%) of the samples are between 76-80 years and only 7(23%) are between 65-70 years of age.

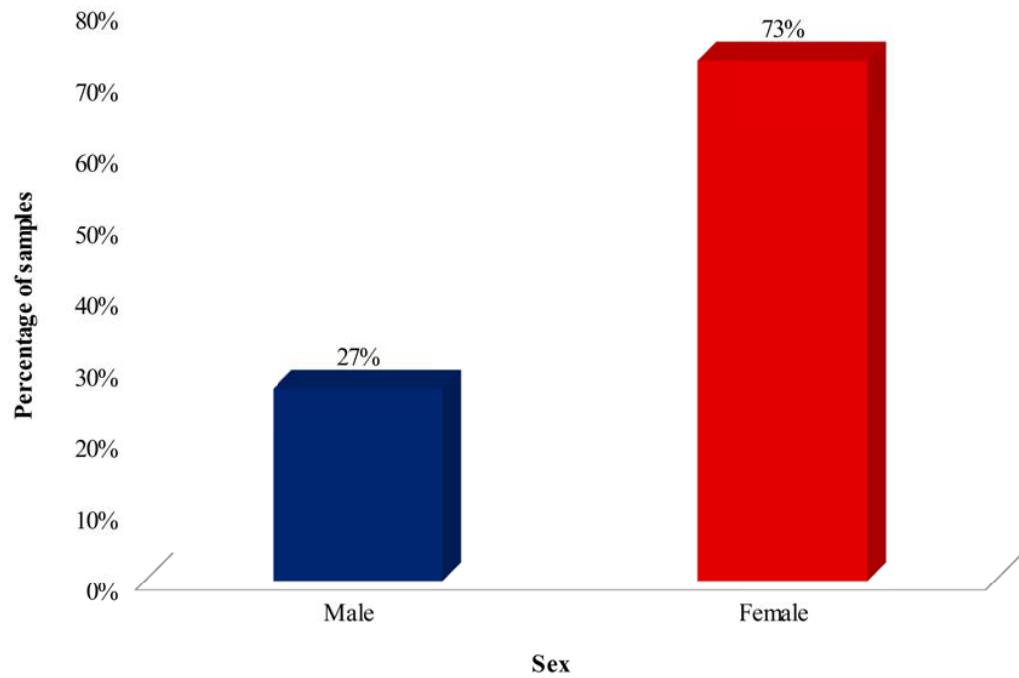


Fig: 4.2. Percentage distribution of samples according to their sex.

The above figure shows that most of the samples 22(73%) of the elderly persons are females and 8(27%) of the elderly persons are males.

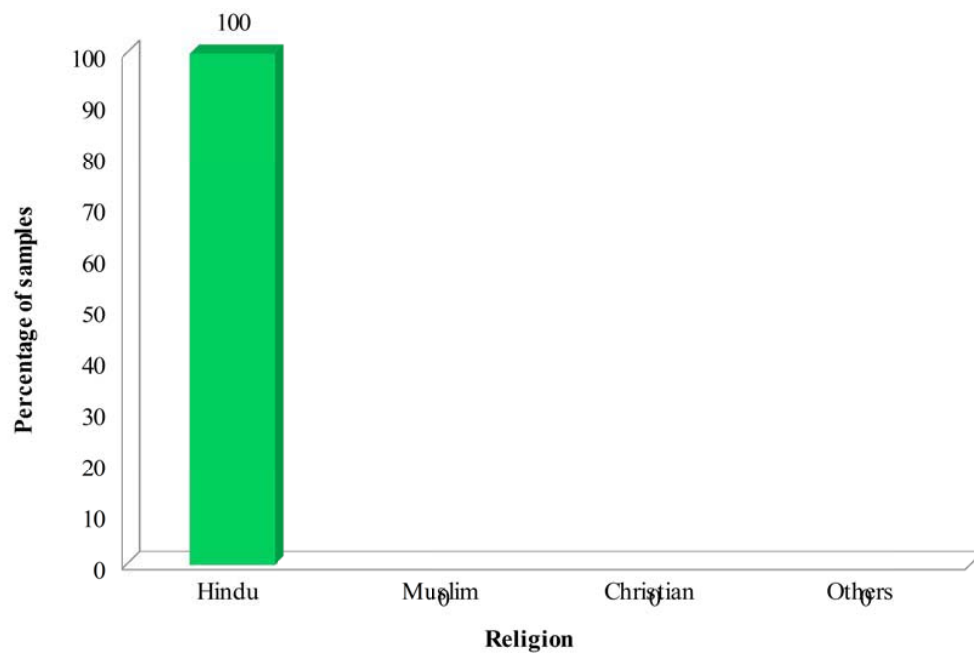


Fig: 4.3. Percentage distribution of samples according to their Religion

The above figure shows that, all of the elderly persons 30(100%) belong to Hindu religion and none of them belong to other religion.

Percentage of Samples

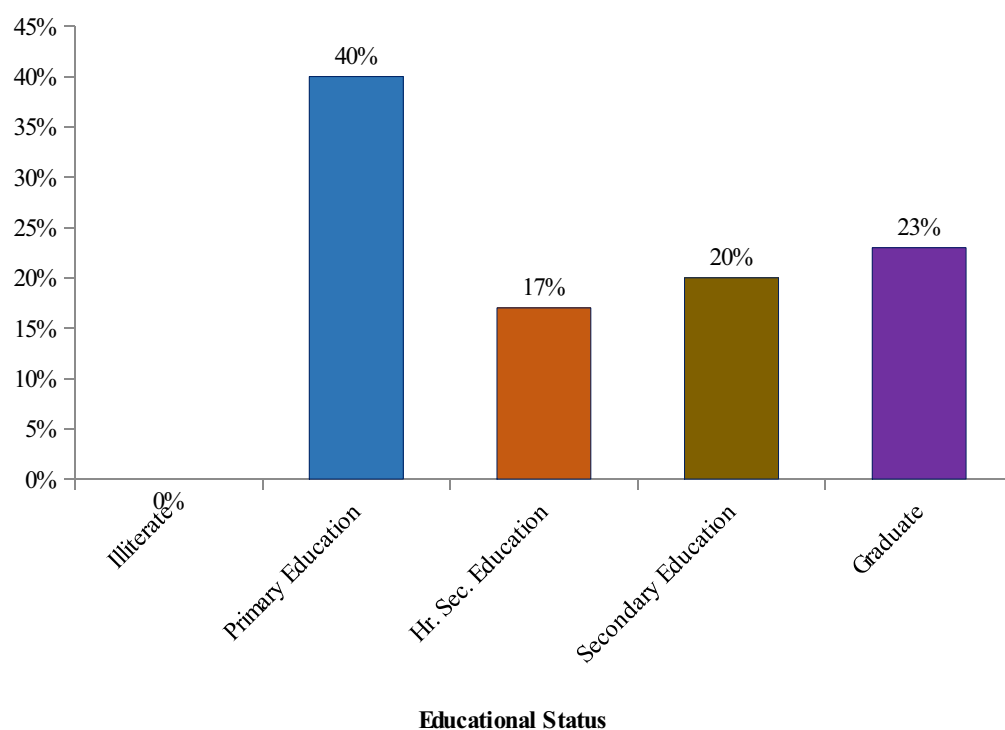


Fig: 4.4. Percentage distribution of samples according to their Educational status

The above figure shows that, 12(40%) of the samples have primary education, 7(23%) of them are graduates, 6(20%) of them have secondary education and 5(17%) of them have higher secondary Education.

Percentage of Samples

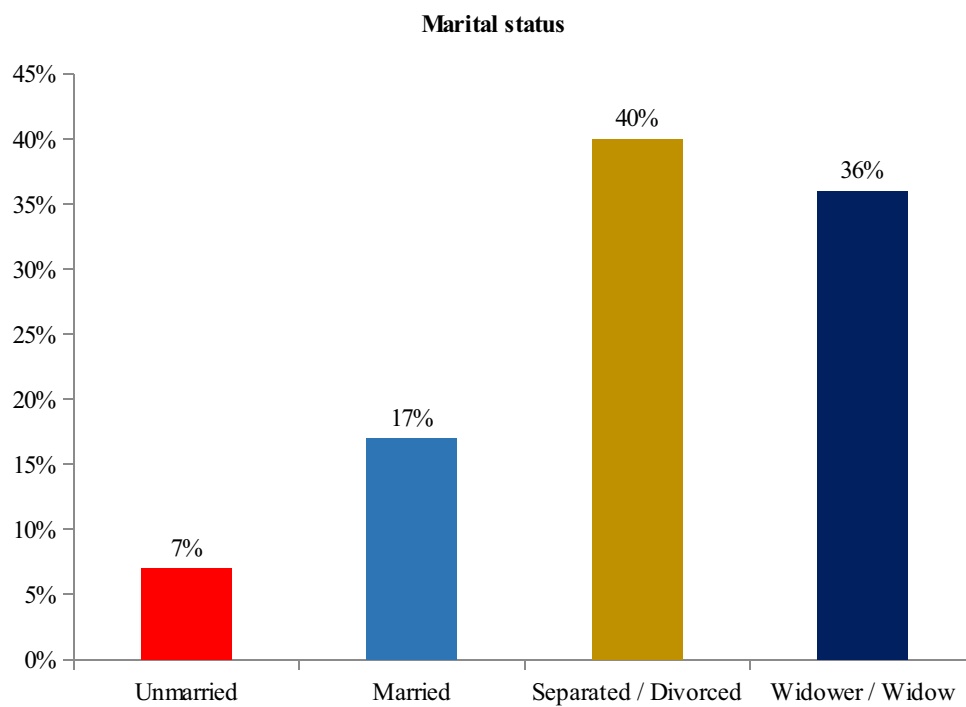


Fig: 4.5. Percentage distribution of samples according to their Marital status

The above figure shows that 12(40%) of the samples are separated/divorced, 11(36%) of them are widower/widow, 5(17%) of them are married and 2(7%) of them are unmarried.

Percentage of Samples

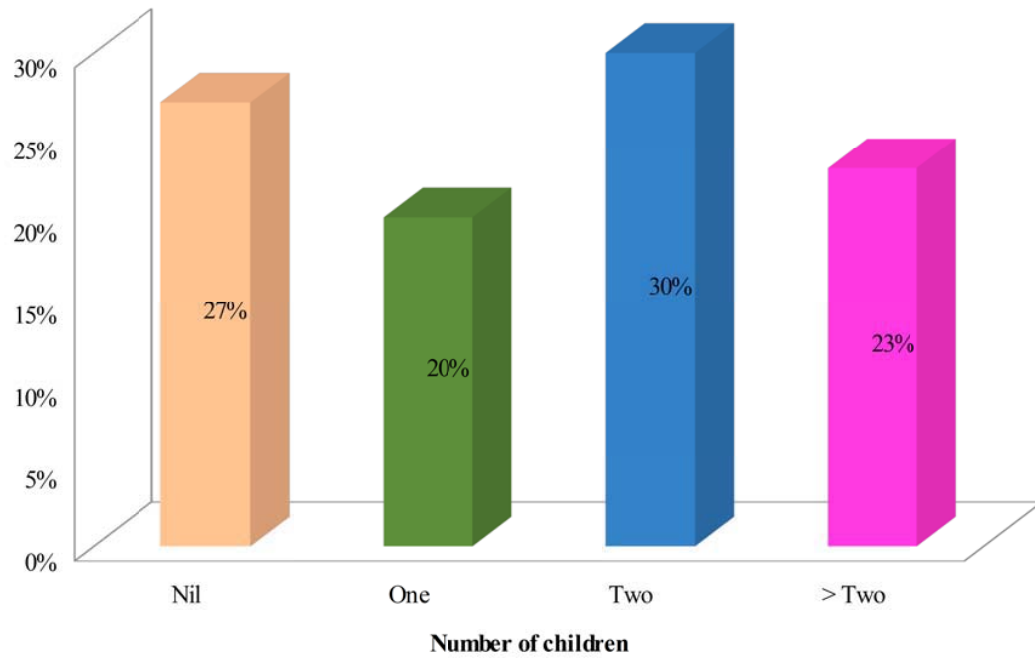


Fig: 4.6. Percentage distribution of samples according to their Number of children

The above figure shows that 9(30%) of the samples have two children, 8(27%) of them have no children, 7(23%) of them have more than two children and 6(20%) of them have only one child.

Fig: 4.7. Percentage distribution of samples according to their source of income.

Percentage of Samples

The above figure shows that 24(80%) of the elderly persons get money for the expenditure through their family members and 6(20%) of them by their pension.

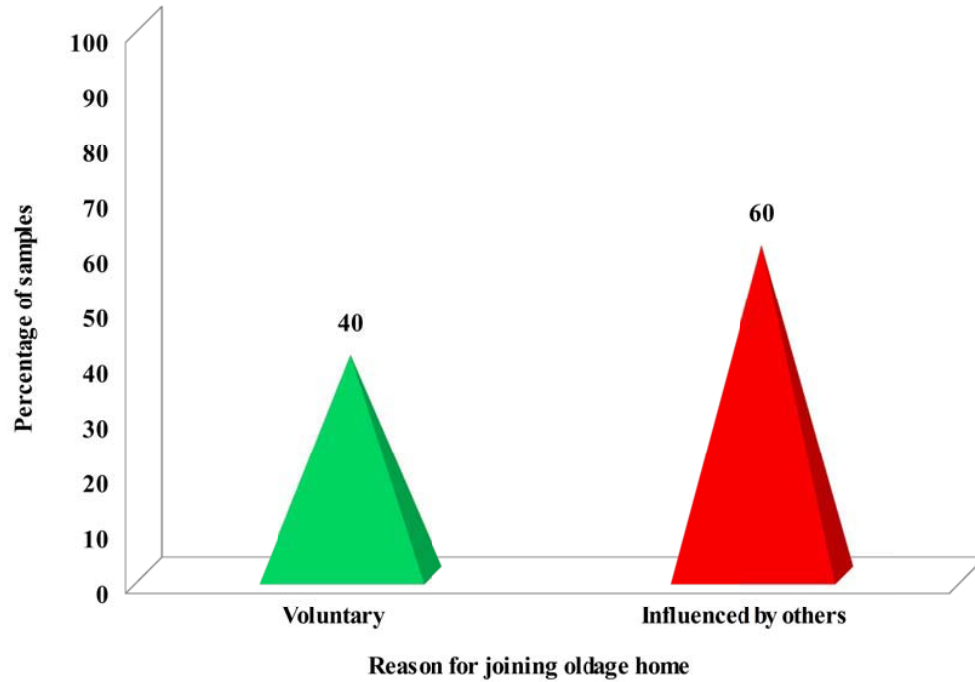


Fig: 4.8. Percentage distribution of samples according to their reason for joining in old age home.

The above figure shows that, 18(60%) of the samples have joined in the old age home by the influence of others and 12(40%) of them have joined voluntarily in the old age home.

Percentage of Samples

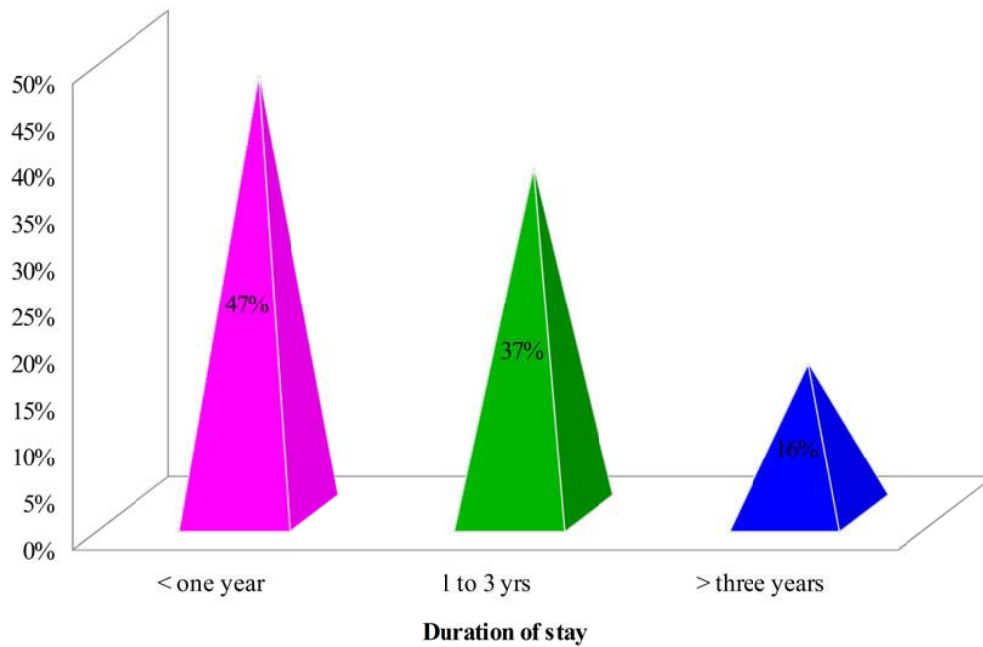


Fig: 4.9. Percentage distribution of samples according to their duration of stay in the old age home.

The above figure shows that, 14(47%) of the samples are staying less than one year duration, 11(37%) of them are staying between 1 to 3 years and 5(16%) of them are staying more than three years in the old age home.

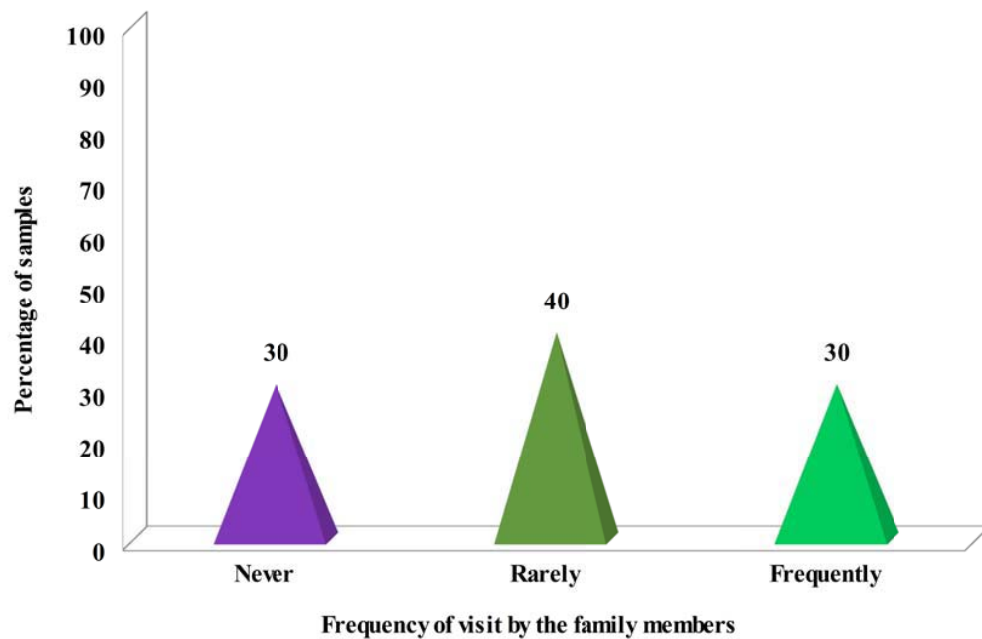


Fig: 4.10. Percentage distribution of samples according to the Frequency of visit by the family members.

The above figure shows that 12(40%) of the sample's family members visit rarely, 9(30%) of the sample's family members visit frequently and never visit the old age home, respectively.

Fig: 4.11. Percentage distribution of samples according to their Presence of any medical illness.

Percentage of Samples

The above figure shows that, 17(57%) of the samples are not having any type of medical illness where as 13(43%) of them are having medical illness.

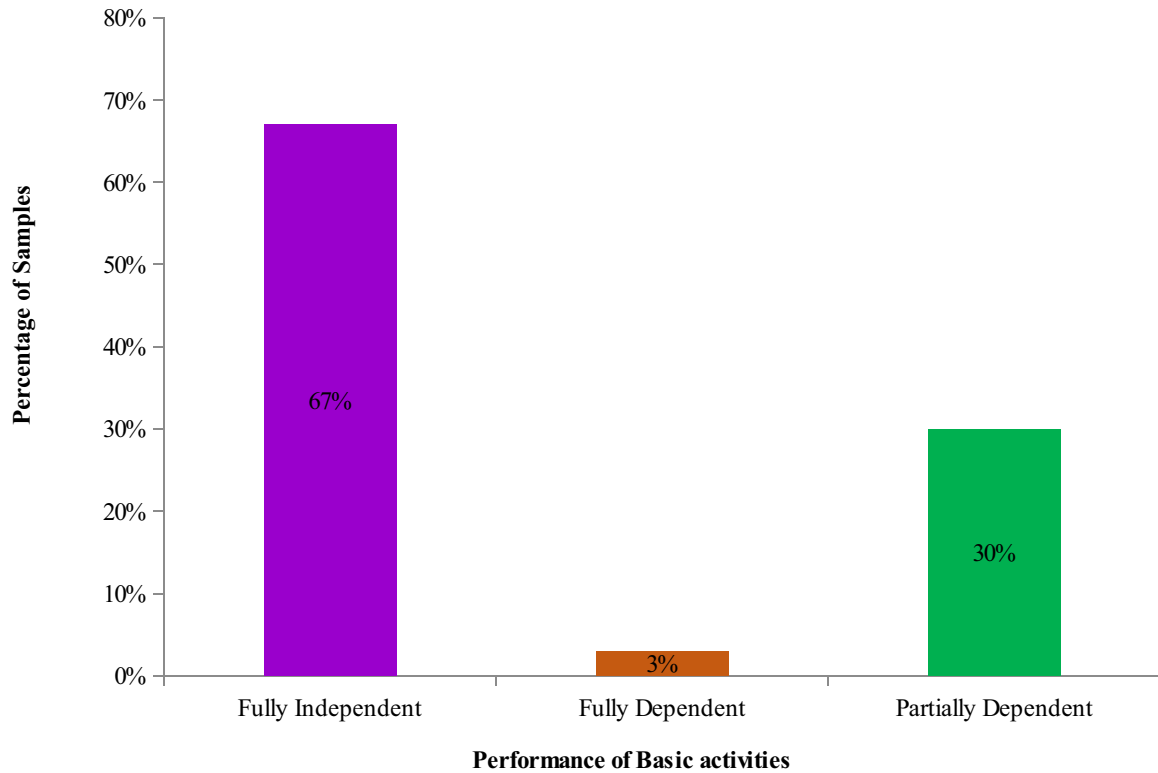


Fig: 4.12 Percentage distribution of samples according to their performance of basic activities.

The above figure shows that, 20(67%) of the samples can do their basic activities themselves, 9(30%) of them are partially dependent and only 1(3%) sample is fully dependent.

Percentage of Samples

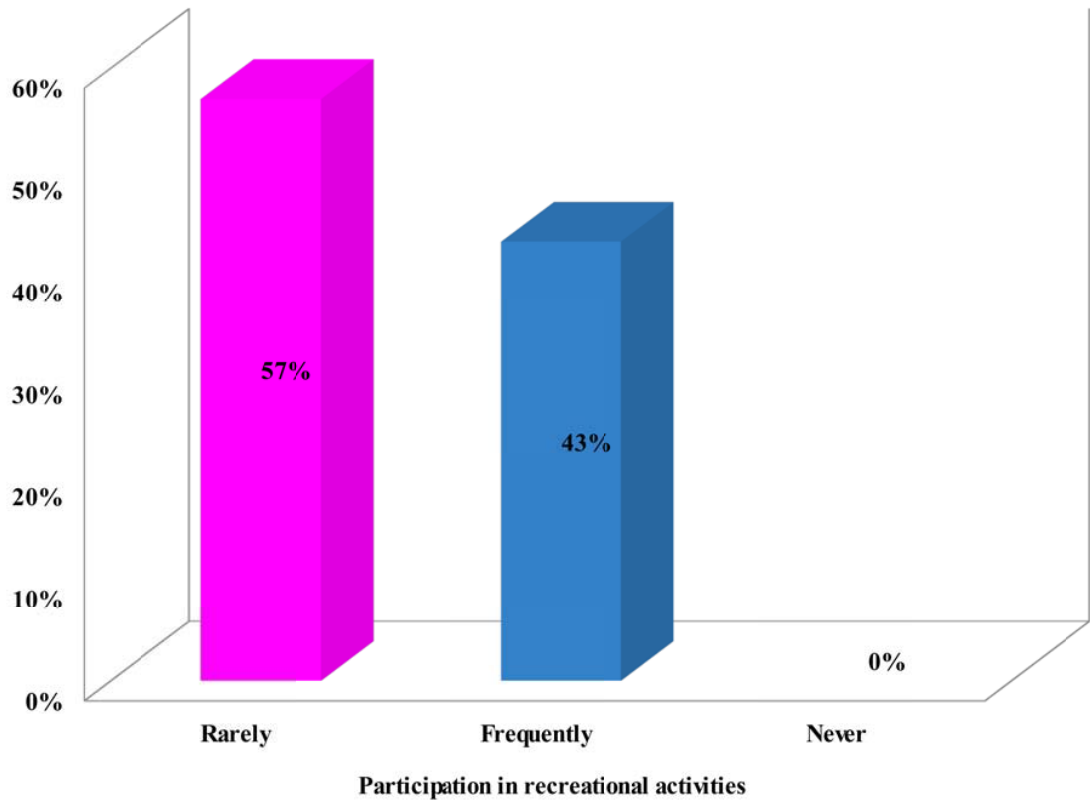


Fig: 4.13. Percentage distribution of samples according to their Participation in Recreational activities.

The above figure shows that, 17(57%) of the samples are rarely participating in recreational activities and 13(43%) of them are frequently participating in the recreational activities.

SECTION -II

- a) **Percentage distribution of samples according to their pre-test level of depression among elderly persons.**

Percentage of Samples

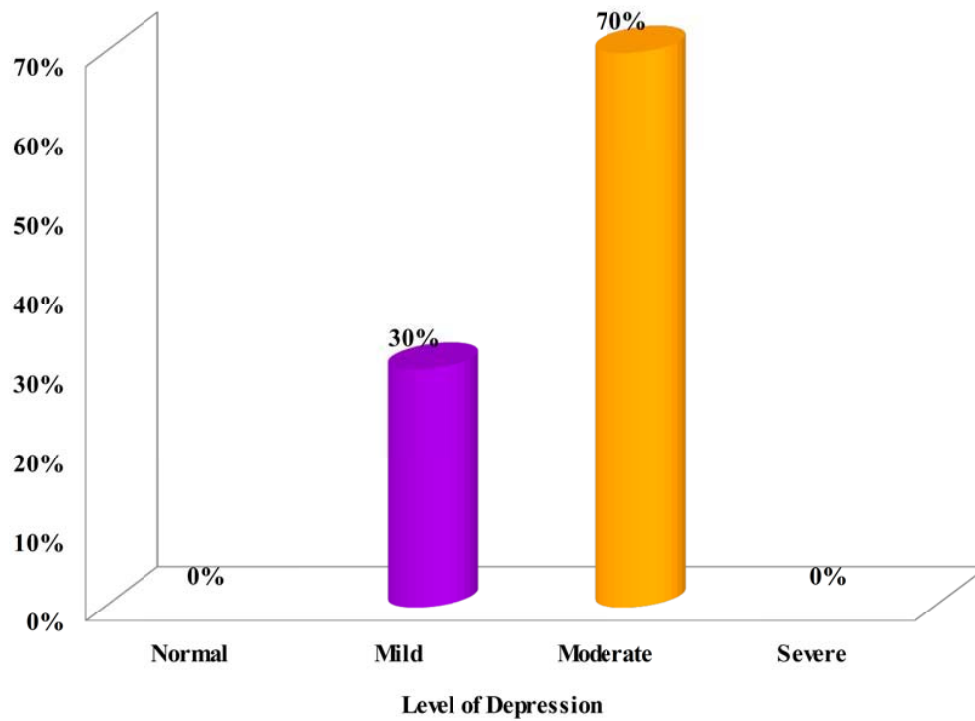


Fig:4.14 Percentage distribution of samples according to their pre-test level of depression.

The above figure shows the pre-test level of depression among samples, 20(70%) of the elderly persons have moderate level of depression and 10 (30%) of them have mild level of depression.

b) Distribution of samples according to their post-test level of depression among elderly persons.

Percentage of Samples

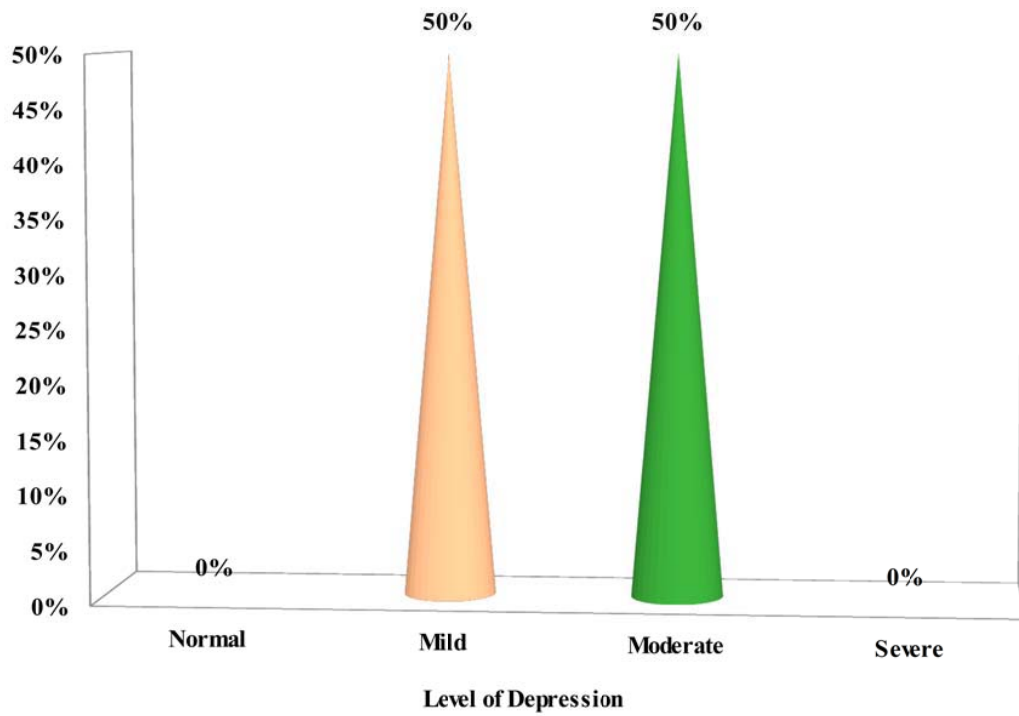


Fig:4.15. Percentage distribution of samples according to their posttest level of depression.

The above figure depicts the post-test level of depression among the samples. Half of the samples 15(50%) have moderate level of depression and 15(50%) of the samples have mild level of depression.

SECTION – III

- a) Comparison of pre-test and post-test level of depression among elderly persons.**

Percentage of Samples

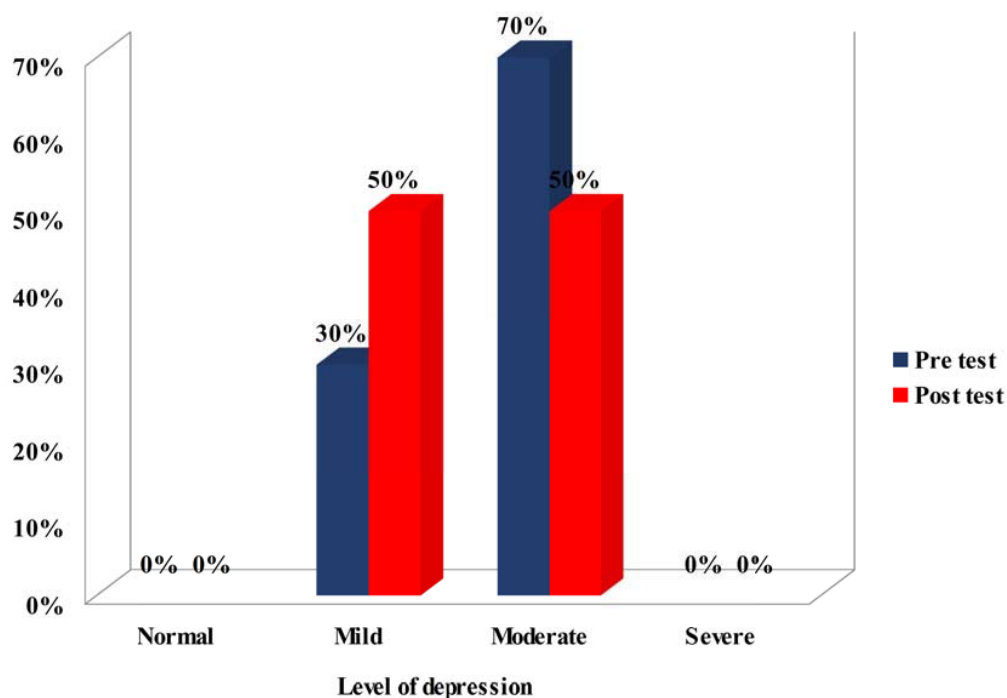


Fig: 4.16. Comparison of pre-test and post-test level of depression among the samples.

The above figure shows the comparison of pre-test and post-test level of depression among the elderly persons. In the pre-test 20 (70%) of the elderly persons have moderate level of depression and 10(30%) of the elderly persons have mild level of depression.

In the post-test, half of the samples 15(50%) have moderate level of depression and 15(50%) of the elderly persons have mild level of depression.

b) Comparison of Mean, SD and Mean difference between pre-test and post-test level of depression among elderly persons.

Table No: 4.1 Mean, SD and Mean difference between pre-test and post-test level of depression among elderly persons.

n=30

Test	Mean	SD	Mean difference
Pre-test	9.56	1.43	1.53
Post-test	8.03	1.58	

The above table shows the comparison of mean, SD and mean difference according to the pre-test and post-test level of depression among elderly persons. In the pretest, the mean score is 9.56 ± 1.43 and in post test, the mean score is 8.03 ± 1.58 . The mean difference is 1.53.

SECTION IV

Hypotheses Testing

a) Effectiveness of foot reflexology on the level of depression among elderly persons.

Table No.: 4.2.Comparison of Mean, SD, Mean Difference and “t” Value.

n=30

Test	Mean	SD	Mean difference	df	Paired ‘t’ test
Pre-test	9.56	1.43	1.53	29	12.324**
Post-test	8.03	1.58			

**Significant at $P \leq 0.01$ level

Table Value = 2.756

The above table shows that, pre-test mean score is 9.56 ± 1.43 and the post-test mean score is 8.03 ± 1.58 . The mean difference is 1.53. The calculated paired ‘t’ test value 12.324 is highly significant than the table value 2.756. This shows that foot reflexology was effective in reducing the level of depression among elderly persons at $p \leq 0.01$ level. Hence the research hypothesis H_1 is retained.

b) Association between the pre-test level of depression among elderly persons and their selected demographic variables.

Table.No:4.3.Chi-square test between the pre-test level of depression among elderly persons and their selected demographic variables.

n=30

Sl. No.	Demographic Variables	df	χ^2	table value
1	Age	2	0.068	5.99
2	Sex	1	0.130	3.84
3	Education	3	4.887	7.81
4	Marital status	3	1.198	7.81
5	No. of children	3	4.178	7.81
6	Source of income	1	0.040	3.84
7	Reason for joining old age home	1	4.471*	3.84
8	Stay in old age home	2	0.940	5.99
9	Frequency of visit by family members	2	1.296	5.99
10	Presence of any medical illness	1	0.006	3.84
11	Performing basic activities	2	2.593	5.99
12	Recreational activities	1	0.524	3.84

*Significant at $P \leq 0.05$ level.

Above table shows that there is a significant association between the reason for joining old age home and the pre-test level of depression among elderly persons at $P \leq 0.05$ level. Hence the research hypothesis H_2 is retained for the above mentioned variable.

c) Association between the post-test level of depression among elderly persons and their selected demographic variables.

Table No.:4.4. Chi-square test between the post-test level of depression among elderly persons and their selected demographic variables.

n=30

Sl. No.	Demographic Variables	df	χ^2	table value
1	Age	2	2.286	5.99
2	Sex	1	1.000	3.84
3	Education	3	10.286*	7.81
4	Marital status	3	3.352	7.81
5	No. of children	3	0.921	7.81
6	Source of income	1	0.000	3.84
7	Reason for joining old age home	1	13.889*	3.84
8	Stay in old age home	2	0.291	5.99
9	Frequency of visit by family members	2	4.111	5.99
10	Presence of any medical illness	1	0.136	3.84
11	Performing basic activities	2	2.800	5.99
12	Recreational activities	1	0.136	3.84

*Significant at $P \leq 0.05$ level.

The above table shows that there is a significant association between the education and reason for joining old age home and the post-test level of depression among elderly persons at $P \leq 0.05$ level. Hence the research hypothesis H_3 is retained for the above mentioned variables.

Summary:

This chapter dealt with the data analysis and interpretation in the form of statistical value based on the objectives. Paired 't' test was used to evaluate the effectiveness of foot reflexology on the level of depression among elderly persons, and chi-square test was used to findout the association between the level of depression and their selected demographic variables.

CHAPTER – V

DISCUSSION

This study was done to assess the Effectiveness of Foot Reflexology on Depression among Elderly at Selected Old Age Homes, Salem.

Demographic Profile of the Samples

The analysis and interpretation of the study shows that, maximum 14(47%) of the elderly persons were aged between 65-70 years, 22(73%) of them were females and all 30(100%) of them belonged to Hindu religion. 12(40%) of the elderly persons have primary education, 12(40%) got separated / divorced, 9(30%) have two children, 24(80%) get money for the expenditure from the family members and 18(60%) have joined in the old age home by the influence of others. 14(47%) of the elderly persons are staying less than one year of duration, 12(40%) of their family members were visiting rarely to the old age home, 17(57%) did not have any type of medical illness, 20(67%) elderly persons were fully independent 17(57%) were rarely participating in the recreational activities.

Jariwala Vishal, et.al, (2010) conducted a study on depression among aged in Surat city. This cross-sectional study was conducted among elderly belonging to different socioeconomic and varying demographic groups of Surat city by using Probability sampling technique. 105 elderly people were selected and were interviewed by using questionnaire which has two parts; the first part comprised of socio-demographic information and the second part comprised of a Mini mental state examination (MMSE) and depression Inventory. The mean age was 73.9 years; among 37.6% elderly, 32.2% were in the youngest age group (65-69 years) and 5.4% female older age group were never married. Among the married samples, 20.8% were widower and 18.8% were widow. Only 7.5% had an education of above tenth

standard. A majority were dependent, either partially ($n=67$; 33.2%) or completely ($n=78$; 38.6%), on other family members (mostly children) for financial support. The overall prevalence of psychiatric morbidity in this geriatric population was 26.7%. The most prevalent psychiatric disorder was depressive disorders ($n=33$; 16.3%). Females had more depressive disorders compared with male ($P=0.02$) and married person also had a lesser prevalence of depression ($P=0.09$). Depressive disorders were common with nuclear family type ($P=0.02$). Patients suffering from depression ($P=0.04$) were significantly dependent on the family members economically. One or more physical illnesses were present in 69.8% of the subjects.

The first objective of the study was to assess the pre-test level of depression among elderly persons.

During pretest, 20(70%) of the elderly persons had moderate level of depression and 10(30%) had mild level of depression.

Rajkumar. AP, et.al, (2009) conducted a study on nature, prevalence and factors associated with depression among the elderly people in a rural south Indian community. The study population was 1000 participants aged over 65 years from Kaniyambadi block Vellore, India. The findings of the study shows the Prevalence of geriatric depression about 12.7%. Medical illness and economic burden increased the risk for geriatric depression. This study revealed that Geriatric depression was prevalent in rural south India. Poverty and physical ill health were risk factors for depression among elderly .

The second objective of the study was to evaluate the effectiveness of foot reflexology on level of depression among elderly persons.

In pre-test the mean score is 9.56 ± 1.43 and in post-test mean score is 8.03 ± 1.58 . The mean difference is 1.53. The calculated 't' test value 12.324 is highly

significant than the table value 2.756 at $P \leq 0.01$ level. This shows that foot reflexology was effective in reducing the level of depression among elderly persons. Hence, the research hypothesis H_1 is retained.

Richard, et.al, (2005) conducted a true experimental research design on foot massage treatment on depression for older adults. Sixty subjects, between the age group of 50 and 80 years, participated in the study. The structured Clinical Interview for DSM-IV Axis I Disorders was used to select the study subjects, 33 subjects completed the protocol. Three weeks of foot massage treatment was given. The investigators visited subjects weekly to assure their safety and their compliance with the study to administer and collect rating forms. Subjects' mood was improved under treatments. The average GDS score also improved by 7 points, i.e. an average of 23%. There were significant ($P \leq 0.05$) treatment differences in GDS improvement by ANCOVA. This study concluded that foot massage treatment did not increase symptoms complaints. Thus, the foot massage was a cost effective feasible treatment for depression among elderly.

The third objective of the study was to associate the pre-test and post-test level of depression among elderly persons with their selected demographic variables.

There is a significant association found between the reason for joining old age home and the pre-test level of depression among elderly persons at $P \leq 0.05$ level. Hence the research hypothesis H_2 is retained for the above mentioned variable.

There is a significant association found between the education and reason for joining old age home and the post-test level of depression among elderly persons at $P \leq 0.05$ level. Hence the research hypothesis H_3 is retained for the above mentioned variables.

Personal Experience:

During pre-test it was found that samples are very interested to express their problems, worries and life history. Since they don't have anybody to express the feelings, most of the samples ventilated their emotional feelings. So it took longer duration to complete the pre-test.

The samples were very cooperative and interested. When the investigator asked about their feeling after the intervention, majority of them said that they feel relaxed, comfortable and happy. Many of the individual after finishing their morning work they used to wait eagerly for the investigator to give the intervention. This study supported the conceptual framework of the study. Level of depression was reduced to those subjects who participated in foot reflexology treatment. To conclude, foot reflexology was low cost and effective treatment for elderly with depression. It can be taken in home itself with psychiatrist advice.

Summary:

This chapter dealt with the discussion of the study with reference to objectives and supportive studies.

CHAPTER – VI

SUMMARY, CONCLUSION, NURSING IMPLICATION AND RECOMMENDATIONS

This chapter consists of four sections. In the first two sections, the summary and conclusion are presented. In the last two sections, the implications for nursing practice and recommendations for further research are presented.

Summary:

Quantitative evaluative approach with pre-experimental one group pre-test and post-test research design was used to determine the effectiveness of Foot Reflexology on depression among elderly persons. The conceptual framework for the study was based on General System Theory designed by Ludwig Von Bertalanffy (1986). The elderly residents initially screened by using Standardized Mini Mental Status Examination (MMSE) to assess the cognitive function and demographic variables, Geriatric Depression Scale (GDS) used to assess the level of depression. Purposive sampling technique was used to select the samples and data was collected from 30 elderly at old age homes, Salem, Tamil Nadu.

The data were collected and analyzed using descriptive and inferential statistics. To test the hypothesis, paired 't'-test and chi square test were used. The level of significance was tested at $p \leq 0.05$.

The Major Findings are

- During pre-test, 20(70%) of the elderly persons had moderate level of depression and 10(30%) had mild level of depression.
- During post-test, 15(50%) of them had moderate level of depression and 15(50%) had mild level of depression..

- The pre-test mean score is 9.56 ± 1.43 and post-test mean score is 8.03 ± 1.58 . The mean difference is 1.53. The calculated 't' test value 12.324 is highly significant than the table value 2.756 at $P \leq 0.01$ level. This shows that foot reflexology was effective in reducing the level of depression among elderly persons. Hence, the research hypothesis H_1 is retained.
- There is a significant association found between the reason for joining old age home and the pre-test level of depression among elderly persons at $P \leq 0.05$ level. Hence the research hypothesis H_2 is retained for the above mentioned variable.
- There is a significant association found between the education and reason for joining old age home and the post-test level of depression among elderly persons at $P \leq 0.05$ level. Hence the research hypothesis H_3 is retained for the above mentioned variables.

Conclusion:

Depression was high among elderly in old age home. They require some low cost and effective interventions to reduce the level of depression. The finding of the study shows that the foot reflexology was effective in reducing the level of depression among elderly persons. There was a significant association found between the reason for joining old age home and the pre-test level of depression among elderly persons and a significant association is found between the education and reason for joining old age home and the post-test level of depression among elderly persons at $P \leq 0.05$ level.

Foot reflexology was effective in reducing the level of depression among elderly persons. It was an effective intervention to reduce the level of depression among elderly.

Implications for Nursing Practice:

There are several important implications for nursing practice.

Nursing Service:

- Nurses can plan the goal of nursing management of psychiatric patients and enhance their self concept, coping strategies and sense of well being through the development of mutually agreed goal.
- Student nurses can use this intervention to depressive patients with adequate knowledge about Foot Reflexology.

Nursing Education:

- Student nurses have only theoretical knowledge and they can be trained to practice the foot reflexology.
- This type of study will help to increase the strength of the complementary medicine through its application.

Nursing Administration:

- The nurse administrator can coordinate her activity along with the curative and rehabilitative aspects and care among elderly by participating, practicing and supervising the Foot Reflexology.
- Nursing administrator can organize in-service education programmes, seminars, workshops regarding the methods of application of Foot Reflexology.

Nursing Research:

- Nursing research can be done to find out the various innovative methods to reduce the level of depression among elderly.
- The findings of the study can help to expand the scientific body of professional knowledge upon which further research can be conducted.

Recommendations:

- A Similar study can be conducted by having a control group.
- A similar study can be conducted to evaluate the outcome of Foot Reflexology on Dementia, Bipolar Mood Disorder and Chronic Mental Illness.
- Similar study can be conducted as comparative study between elderly residents in old age homes and elderly residing with their family.
- A study can be conducted with large sample size to generalize the results of the study.
- The study can be carried out for a longer period of time.
- A similar study can be conducted to different population like children and chronic patients with depression.
- A similar study can be conducted in community settings.

Summary:

This chapter dealt with summary, implications for nursing practice and recommendations and conclusion.

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ANNEXURE – A

LETTER SEEKING PERMISSION TO CONDUCT A RESEARCH PROJECT

From

Mr. R. ELANGO,
II Year M.Sc., (N)
Sri Gokulam College of Nursing,
Salem, Tamil Nadu.

To

The Principal,
Sri Gokulam College of Nursing,
Salem, Tamil Nadu.

Respected Sir/Madam,

Sub: Permission to conduct research project - request- reg.

I, **Mr. Elango R.**, II Year M.Sc., (Nursing) student of Sri Gokulam College of Nursing, is conducting a research project in partial fulfilment of “The Tamil Nadu Dr. M.G.R. Medical University, Chennai” as a part of the requirement for the award of M.Sc. (Nursing) Degree.

Topic: “A Study to Assess the Effectiveness of foot reflexology on Depression among Elderly persons at Selected Old age Homes, Salem”.

I wish to seek the administrative permission to conduct the research study at Bodhimaram, Tambras, Vallalar old age homes at Salem.

Kindly do the needful.

Thanking you.

Date: 21.08.2015

Yours sincerely,

Place: Salem

(Mr. R. ELANGO.)

ANNEXURE – B

LETTER GRANTING PERMISSION TO CONDUCT A RESEARCH PROJECT



SRI GOKULAM COLLEGE OF NURSING

3/836, Periyakalam, Neikkarapatti, Salem - 636 010.

Phone : 0427 - 6544550, 2272240, 2272250 Fax : 0427 - 2270200, 2447077

Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date :

LETTER REQUESTING PERMISSION TO CONDUCT A RESEARCH STUDY

To
The Manager,
Vallalar Old Age Home,
Salem, Tamilnadu.
Respected Sir/Madam,

Sub: Permission to conduct research project –request –reg.

This is to introduce **Mr. Elango**, Final year M.Sc. (Nursing) student of Sri Gokulam College of Nursing. He is to conduct a research project which is to be submitted to “The Tamil Nadu Dr.M.G.R Medical University, Chennai” as partial fulfillment of university requirement for the award of M.Sc (Nursing) Degree.

Topic: “A study to assess the effectiveness of foot reflexology on depression among elderly at selected old age home, Salem”.

I request you to kindly permit him to conduct the research study in your esteemed Institution. He will adhere to the policies and regulation of your institution.

Thanking you,

Date:

Place: Salem

Yours Sincerely,

(Dr. K. Tamizharasi)

PRINCIPAL
Sri Gokulam College of Nursing
SALEM – 636 010.

Permitted to conduct the study
20/5/15
Dr C DURAISAMY, M.B., B.S., D.A.
Reg. No: 20132
JOINT DIRECTOR OF MEDICAL
AND RURAL HEALTH SERVICES (Rtd)
14-A, SUBRAMANIA NAGAR,
JAHIRAMMAPALAYAM ROAD
SALEM - 5.

Managing Trustee
Vallalar Old Age Home



SRI GOKULAM COLLEGE OF NURSING

3/836, Periyakalam, Neikkarapatti, Salem - 636 010.

Phone : 0427 - 6544550, 2272240, 2272250 Fax : 0427 - 2270200, 2447077

Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date :

LETTER REQUESTING PERMISSION TO CONDUCT A RESEARCH STUDY

To,

The Manager,

Boodhi Maram Old Age Home,

Kannankurichi, Salem.

Respected Madam / Sir,

Sub: Permission to conduct a research study request.reg.

This is to introduce **Mr. R. Elango**, Final Year M.Sc (Nursing) student of Sri Gokulam College of Nursing. He is to conduct research project which is to be submitted to **"The Tamilnadu Dr. M.G.R Medical University, Chennai"** in partial fulfillment of University requirement for the award of M.Sc. (N) degree.

Topic: "A study to assess the effectiveness of foot reflexology on depression among elderly at selected old age home, Salem".

I request you to kindly permit him to conduct the research study in your esteemed institution. He will adhere to the policies and regulation of your institution. Kindly do the needful.

Thanking you,

Date:

Place: Salem

Yours Sincerely,

(Dr.K.Tamizharasi)

PRINCIPAL

**Sri Gokulam College of Nursing
SALEM - 636 010.**



For BODHIMARAM OLDAGE HOME

President/Secretary/Treasurer

ANNEXURE - C
LETTER REQUESTING OPINION AND SUGGESTIONS OF EXPERTS FOR
CONTENT VALIDITY OF THE RESEARCH TOOL

From

Mr. R. Elango,
Final year M.Sc.,(N),
Sri Gokulam College of Nursing,
Salem, Tamil Nadu.

To

(Through proper channel)

Respected Sir/Madam,

**Sub: Requesting opinion and suggestion of experts for establishing
content validity of the tool.**

I **Mr. R. Elango**, Final Year M.sc.,(Nursing) student of Sri Gokulam College of Nursing, Salem, have selected the below mentioned statement of the problem for the Research study to The Tamil Nadu Dr. M.G.R. Medical University, Chennai as partial fulfillment for the award of Master of science in Nursing.

Topic: "A study to assess the effectiveness of Foot Reflexology on depression among elderly at selected Old Age Home, Salem".

I request you to kindly validate the tool developed for the study and give your expert opinion and suggestion for necessary modifications.

Thanking you.

Place: Salem

Yours Sincerely,

Date:

(R. Elango)

ENCLOSED:

1. Certificate of Validation.
2. Criteria checklist of evaluation of tool.
3. Tool for collection of data.
4. Procedure for reflexology.

ANNEXURE - D

TOOL FOR DATA COLLECTION

SECTION A : Demographic Variables

SECTION B : Mini-Mental Status Examination (MMSE)

SECTION C: Geriatric Depression Scale (GDS)

SECTION – A

DEMOGRAPHIC VARIABLES

1. Age in years
 - a) 65 - 70.
 - b) 71 - 75.
 - c) 76 - 80.
2. Sex
 - a) Male.
 - b) Female.
3. Religion
 - a) Hindu.
 - b) Muslim.
 - c) Christian.
 - d) Others.
4. Educational status
 - a) Illiterate.

- b) Primary education.
- c) Higher education.
- d) Secondary education.
- e) Graduate.

5. Marital status

- a) Unmarried
- b) Married.
- c) Separated/Divorced
- d) Widower/ Widow

6. Number of Children

- a) Nil.
- b) One.
- c) Two.
- d) >Two.

7. Source of income

- a) Pension.
- b) With their help of family members.
- c) Others.

8. Reason for joining in old age home

- a) Voluntary.
- b) Influenced by others.

9. Duration of stay in old age home

- a) < one year.
- b) 1 to 3 yrs.

c) > three years.

10. Frequency of visit by the family members

a) Never.

b) Rarely.

c) Frequently.

11. Presence of any medical illness

a) Yes.

b) No.

12. Performance of basic activities

a) Fully Independent.

b) Fully Dependent.

c) Partially dependent.

13. Participation in the recreational activities

a) Rarely.

b) Frequently

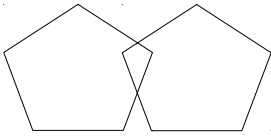
c) Never.

SECTION – B

MINI-MENTAL STATUS EXAMINATION (MMSE)

Please tick (✓) the appropriate column and give your valid suggestions in the columns provided.

Sl. no.	Items	Very good	Good	Fair	Poor	Suggestions
		4	3	2	1	
1	What is the year? Season? Date? Day? Month?					
2	Where are we now? State? Country? Town / City? Hospital? Floor?					
3	The examiners names three unrelated objects clearly and slowly, then the instructor asks the patient to name all three of them. The patient to name all three of them. The patient's response is used for scoring. The examiner repeats them until patient learns all of them, if possible					
4	"I would like you to count backward from 100 by sevens". (93, 86, 79, 72, 65, ...)					
5	Earlier I told you the name of					

	three things, can you tell me what those were?					
6	Show the patient a simple object, a wristwatch, and ask the patient to name it.					
7	Show the patient a pencil, and ask the patient to name it.					
8	Repeat the phrase: 'No ifs, ands, or buts.'					
9	"Please read this and do what it says." (Written instruction is "Close your eyes.")					
10	"Make up and write a sentence about anything." (This sentence must contain a noun and a verb.)					
11	<p>"Please copy this picture." (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.)</p> 					
12	Take the paper in your right hand, fold it in half, and put it on the floor. (The examiner gives the patient a piece of blank paper.)					

SECTION – C
GERIATRIC DEPRESSION SCALE (GDS)

Choose the best answer for how have felt over the past week.

1. Are you basically satisfied with your life? YES / **NO**
2. Have you dropped many of your activities and interests? **YES** / NO
3. Do you feel that your life is empty? **YES** / NO
4. Do you often get bored? **YES** / NO
5. Are in good spirits most of the time? YES / **NO**
6. Are you afraid that something bad is going to happen to you? **YES** / NO
7. Do you feel happy most of the time? YES / **NO**
8. Do you often feel helpless? **YES** / NO
9. Do you prefer to stay at home, rather than going out and doing new things?
YES / NO
10. Do you feel you have more problems with memory than most? **YES** / NO
11. Do you think it is wonderful to be alive now? YES / **NO**
12. Do you feel pretty worthless that way you are now? **YES** / NO

13. Do you feel full of energy? YES / ***NO***

14. Do you feel that your situation is hopeless? ***YES*** / NO

15. Do you think that most people are better off than you are? ***YES*** / NO

Scoring Pattern

Sl. No.	Items	Question Nos.
1.	Positive items	2,3,4,6,8,9,10,12,14 &15
2.	Negative items	1,5,7,11 & 13

The Total scoring system is as follows

Scores	Description
0 - 4	Normal
5 - 8	Mild depression
9 - 11	Moderate depression
12 - 15	Severe depression

ANNEXURE- F

FOOT REFLEXOLOGY

DEFINITION:

Foot Reflexology is an applied pressure therapy that involves stimulating reflex points that are located on the foot. These foot reflex points correspond to specific areas of the body and when used single or in combination, produce therapeutic benefit.

WHAT IS REFLEXOLOGY?

Everybody loves a good foot rub. But did you know foot massage dates back to ancient Egypt and China. Over 5,000 years ago our ancestors were rubbing each other's feet. In the late 1800s, Europeans invented reflexology: applying pressure to a person's feet in order to affect a physical change to the body. Placement of pressure is based on a system of zones and reflex areas that correspond to other parts of the body. Also called "zone therapy," this mixture of healing art and science is based on the premise that an energy channel encompassing 12 vital organs exists from our feet to the tops of our heads. Applying pressure with his/her hands, a reflexologist unblocks that channel to restore proper health and organ function.

Because the principles of foot massage are not in alignment with Science, reflexology did not come to the other parts of the world until 20th century. Since then, it has become an increasingly popular alternative therapy, it is in due part of the

current holistic medicine trend. Today, over 20 countries across the globe support reflexology associations. Reflexology is particularly popular in Denmark and the UK.

WHAT IS REFLEXOLOGY USED FOR?

Though reflexologists are not allowed to diagnose a medical condition, claim to be able to cure disease, or prescribe medication, many people elect to receive reflexology for these reasons, among others:

- stress reduction and relaxation
- pain relief
- depression
- immune system strengthening
- elimination/digestion improvement
- circulation

PROCEDURE:

1. **Get in a comfortable position:** Remove your shoes and socks and sit cross-legged on a bed or a yoga mat. Try to relax your body in an effort to prepare yourself to begin the healing process. You may either perform your own reflexology treatment or work with a partner who can apply pressure in the spots that are more difficult to reach.
2. **Relieve tension in your neck and head:** Relieve neck tension by applying pressure to the joints or "necks" of your 8 little toes. If you are experiencing tension in one area of your neck, you will feel tension or a slight discomfort in one of your corresponding toes. Your entire head is represented in your two

big toes, so apply pressure to them to relieve headache tension. Use your fingers to apply steady, firm pressure to the backs of your toes, one at a time. Continue until you feel the tension in your neck begin to dissolve and the pressure leave your head.

3. **Help your chest relax:** Stress often manifests in the form of a chest that feels tight. You may feel like you are having trouble to take a good deep breath. Apply pressure to the balls of your feet to alleviate chest discomfort. This area contains the reflexes to your lungs, airways, heart, thymus gland, chest and shoulders.
4. **Relieve stomach tension:** If you tend to feel stress in your stomach, which you may describe as having "the jitters," press the reflex points on your instep (the non-weight bearing area on the bottom of your foot) to relieve discomfort to your abdominal organs. This is the area you would want to work on if you are feeling "gut-wrenching" emotions, or if you wake up with a feeling of heaviness in the pit of your stomach.
5. **Loosen your limb:** If your legs, arms and shoulders feel tight with stress, use reflexology to loosen up. Discharge tension in your arms and legs by applying pressure to the reflex points on the outer edges of your feet.
6. **Help yourself sleep:** Try applying pressure to a combination of all the reflex points to relieve insomnia. Stress is often the main cause behind insomnia, and if worries, fears and tension tend to keep you up at night, you can relieve your insomnia using the same reflex points you would use to relieve tension and stress:
 - Apply pressure to the backs of your toes to ease pressure in your neck and head.

- Apply pressure to the balls of your feet to help you breathe more easily.
- Apply pressure to your instep to help your stomach calm down.
- Apply pressure to the outer edges of your feet to loosen tight muscles.

7. **Have a partner help you:** When you are dealing with pain, it can be helpful to work with a partner rather than performing reflexology techniques on your own. That way you can try to completely relax your body to allow healing to begin. Remove constricting clothing and lie down on a bed or another comfortable surface before beginning the session. Dim the lights to create a more peaceful environment with as few irritating stimulants as possible. It can help to play soothing music, light some candles, or use massage oil to make the experience to feel calming and healing as possible.

8. **Get rid of a headache:** Reflexology is great for relieving simple headaches. Relieve tension and sinus headache by applying pressure on the reflex points for the head and neck, which are located on your toes. All of your toes have points that correlate to your head, face and brain. Apply pressure to the entire surface of each of your toes if you are suffering from a migraine headache. Press your thumb into each toe and repeat the process at least ten times for each toe. This method is especially effective if your migraine has been triggered by sinusitis. If you have chronic or unexplained head pain, seek medical advice to find out if your headache are being triggered by other medical conditions.

9. **Deal with general aches and pain:** An overall reflexology session can relieve general aches and pains. Most reflex points should be pressed for about 10 seconds at a time. Take your time and press all the reflex points on each

one of your feet. Use light pressure and pay attention to any spot that feels sore or painful. When you experience discomfort in a reflex point, the corresponding organ or limb is out of balance.

- Treat all the reflex points on each foot, to evaluate all your areas of imbalance.
- Once you've worked on each of your feet, return to any painful points and work your sore points gently until you no longer feel the soreness or discomfort.

FOOT REFLEXOLOGY BENEFITS

Lots of stress goes to the feet through each day. No body part is more abused than our feet. Standing, running, jumping – our feet do it all. Reflexologists believe that overall health begins in our feet and travels up. The benefits of foot massage are endless – not to mention it feels downright great. Although there are no “hard facts” to prove what a foot massage can really do, practitioners and patients alike claim that reflexology can:

- Cure colds/minor ailments.
- Prevent/cure diseases.
- Increase energy.
- Relieve stress, pain, and anxiety.
- Improve blood and lymph circulation.
- Prevent injury.
- Relieve pain from MS and chemotherapy.
- Stimulate activity of internal organs.
- Successfully treat liver dysfunction, constipation, IBS, chronic headaches, and skin allergies.
- Relieve pressure on legs and feet in pregnant women.

The benefits aren't purely physical. A good foot massage can also improve your mental and emotional state. Most of those who seek out a reflexologist are looking for relaxation and stress relief. With less stress in your life, your chance of heart disease drops considerably.

ANNEXURE – G

LIST OF EXPERTS

- 1. Mrs.Lalitha. P, M.Sc.(N),**
HOD, Department of Mental Health Nursing,
Sri Gokullam College of Nursing,
Salem.
- 2. Dr.C.Babu.MD,**
Specialist in deaddiction and child psychiatry,
Consultant psychiatrist,
Sri Gokulam hospitals, Salem.
- 3. Dr.M. Senthilkumar, M.Sc(Psy), M. Phill (Psy).,**
Clinical Psychologist,
Arumbakkam,
Chennai – 600 026.
- 4. Mr. P. Selvaraj, M.Sc.(N),**
HOD, Department of Mental Health Nursing,
Shanmuga College of Nursing,
Salem.
- 5. Mr.V. Manikandan, M.Sc.(N),**
Assistant Professor,
Department of Mental Health Nursing,
SJB College of Nursing,
Kengeri, Bangalore - 60.
- 6. Mrs.N.M. Kavitha, M.Sc.(N),**

Associate Professor,
Department of Mental Health Nursing,
Shanmuga College of Nursing,
Salem.

CERTIFICATE FOR VALIDATION

This is to certify that the tool and content developed by **Mr. R. ELANGO**, Final Year M.Sc. Nursing student of Sri Gokulam College of Nursing, Salem (affiliated to The Tamil Nadu Dr.M.G.R.Medical University, Chennai) is validated and can proceed with this tool and content for the main study entitled **"A Study to assess the effectiveness of Foot Reflexology on Depression among elderly at selected Old Age Home, Salem"**.

C. Babu

Signature with date
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CERTIFICATE FOR VALIDATION

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Signature with date
M. SENTHIL KUMAR
M.Sc (Psy), M.Phil (Psy)
Clinical Psychologist
Arumbakkam,
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CERTIFICATE FOR VALIDATION

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P. Selvaraj
Signature with date 14/8/15

P. SELVARAJ
Head of the Department
Dept. of Mental Health Nursing,
Shanmuga College of Nursing,
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CERTIFICATE FOR VALIDATION

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Signature with date

V. MANIKANDAN

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CERTIFICATE FOR VALIDATION

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D. R. Anthoni
14/8/15

Signature with date



ANNEXURE – H
CERTIFICATE OF EDITING
TO WHOMEVER IT MAY CONCERN

Certified that the dissertation paper titled "**Effectiveness of foot reflexology on the level of depression among elderly persons at selected old age homes, Salem**". By **Mr. R.Elango**, It has been checked for accuracy and correctness of English language used in presenting the paper is lucid, unambiguous free of grammatical or spelling errors and apt for the purpose.


31/01/16

Signature

Name & Designation.


Date: 31-01-16

(P. SANTHAKUMAR
M.A., M.Phil., B.Ed.)
P.G. Tr. in English,
A. B. H. S. School,
Tiruchengode)

TO WHOMEVER IT MAY CONCERN

Certified that the dissertation paper titled “**Effectiveness of foot reflexology on the level of depression among elderly persons at selected old age homes, Salem**”. By **Mr. R.Elango**, It has been checked for accuracy and correctness of Tamil language used in presenting the paper is lucid, unambiguous free of grammatical or spelling errors and apt for the purpose.

Date: 2/2/16


Signature
Name & Designation. M.A. M. Elango.
(TAMIL)
சென்னை பல்கலைக்கழகம்,
தமிழ் மொழி அறிஞர்,
தமிழ் மொழி அறிஞர்,
தமிழ் மொழி அறிஞர்.

ANNEXURE – I

PHOTOS



